

VICK'S

ILLUSTRATED MONTHLY

MAGAZINE.

DEVOTED TO THE PROFITABLE CULTURE OF FLOWERS AND VEGETABLES.

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ROCHESTER, N. Y., JANUARY, 1895.

Volume 18, No. 3.
New Series.

For Babies and Children.

All children need the elements of food found in Cod-liver Oil and Hypophosphites of Lime and Soda. Many are able to derive these properties from their ordinary food. *But many do not*; consequently they do not thrive. Their teeth are defective. Their bones are not properly formed. Their blood is depleted, cheeks lack color, and vitality is at a low ebb. Their brain takes all their nourishment and nothing is left for the groundwork of their future health.

Scott's Emulsion

of Cod-liver Oil and Hypophosphites, is an easy and concentrated form of the food properties that are *absolutely necessary* to all growing children. It overcomes wasting tendencies, enriches and purifies the blood, makes healthy flesh, and brings rosy cheeks and bright eyes to all the babies and children who take it. It is nourishment to the bones as well as to the vital organs and muscular system.

"Christian Intelligencer."

MESSRS. SCOTT & BOWNE,

NEW YORK, Nov. 5, 1894.

GENTLEMEN—A sense of gratitude for the benefit received from the use of Scott's Emulsion of Cod-liver Oil, in the case of my young son, prompts me to write you that others may profit by my experience. For some months the little fellow, who had never been a rugged child, seemed to steadily waste away. He lost all desire for play, became weak and nervous, had little appetite, much trouble in obtaining sleep, and was very susceptible to the slightest changes in the weather. I was advised he was growing too fast, and a tonic prescribed, but he continued to lose in weight. One day a friend said: "What that child needs is *more nourishment*, and the thing to give him is Scott's Emulsion of Cod-liver Oil. It would make a new boy of him in a month." He spoke so earnestly I decided to follow his advice, and the effect was almost magical. An improved appetite was at once noted, the roses gradually returned to his cheeks, he experienced no trouble from sleeplessness, a spirit of fun and desire for play developed, he gained rapidly in weight, and in about a month verified my friend's confident prediction, for he was indeed a new boy. Today he is apparently as strong and healthy as a child could be, and the wonderful change was wrought by Scott's Emulsion of Cod-liver Oil and Hypophosphites.

Respectfully yours,

R. F. BOGARDUS.



Trade-Mark.

SCOTT & BOWNE, New-York City. All Druggists. 50 cents and \$1.



300, FOR A NAME.
A Chance for Every Customer.

A FLORAL WONDER A BEAUTIFUL VARIETY OF **DOUBLE SWEET PEA.**

THE FIRST EVER INTRODUCED. IT WANTS A NAME.
WHO WILL BE GODFATHER OR GODMOTHER?


E have in our burglar-proof and fire-proof vault a small bag of seeds which we prize as highly and guard as carefully as a jeweler his diamonds. A DOUBLE SWEET PEA, the only one in existence, is represented by this bag of seeds, and we want a name for it. We ask the counsel of all our friends to supply a name for this beautiful gift of the flower angels. The originator and nurse of this new variety is Mrs. O. H. Day, a life-time flower lover and cultivator, and this is the child of her old age. It came to light in the region of Niagara Falls, and there for successive seasons it has been watched over and cared for and trained in all proper ways, until now it is thought some account may be given of it to the public, to whom it is intended to be introduced by us in the spring of 1895. The flowers of this variety are double; that is, they have two or three standards or upright parts. These standards are a clear rose color, while the other parts are white. It is a very beautiful variety, and the duplicate or triplicate banners make it remarkably showy, and render it much more durable as a cut flower. The position of the banners, back to back, or partly overlapping, is such that while it does not change the general form of the flower, yet it increases the color space so as to add to its beauty. Of course this is something quite new among Sweet Peas, and is distinct from every known variety. The flowers are large, the colors pure and beautifully blended, and the fragrance as sweet as the sweetest. Altogether it is a lovely new variety.

A number of names, which are hereafter given, have been selected, any one of which would be suitable, and we wish our friends to help decide which one of them shall be adopted, the manner of selection to be as follows:

Any person sending us \$1.00 for Vegetable or Flower Seeds, Plants or Bulbs, selected from our Floral Guide, before July 1, 1895, will be entitled to one vote, or to one vote for each dollar so sent.

On each ballot (a piece of writing paper about 2x4 inches,) write a name of your choice from the list of names given, and also write the numbers of votes which you think that name may receive from all the votes, also your name and address. Make extra ballots and send for each dollar of the amount of your order.

The name receiving the largest number of votes shall be the name of the Double Sweet Pea. The person who votes for this name, and whose ballot shows the number which is nearest the exact number of votes cast for this name shall be paid by us \$150 cash. The person giving the next nearest number of this name shall be paid \$75 cash. The one giving the third nearest shall be paid \$50 cash. The one giving the fourth nearest shall be paid \$25 cash.

THE BALLOTS MUST BE SENT WITH THE ORDERS, and as soon as received will be at once placed in separate closed boxes, which will be well guarded and kept closed until the time of opening, July 1, 1895. The announcement of the prize winners will be made in the August number of Vick's Magazine, and the prize winner will also be specially notified of the result. No employee, or any person in any way connected with our business will be allowed to vote.

VOTE FOR ONE OF THE FOLLOWING APPROPRIATE NAMES:

DAWN OF DAY,
BEAUTY'S BLUSH,

MAID OF THE MIST,
DOROTHY VICK,

BRIDE OF NIAGARA,
JAMES VICK.

JAMES VICK'S SONS, Rochester, N. Y.

VICK'S MAGAZINE.

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ROCHESTER, N. Y., JANUARY, 1895.

No. 3

A YEAR MORE WITH NEW PLANTS.

ANOTHER year's experience with some of the plants which have recently been brought to the prominent notice of the gardening community, enables us to mention their peculiarities at this time with increased knowledge and assurance.

The Branching Aster. This plant is giving general satisfaction. Wherever it has been tried it has been reported most favorably, and the demand for it is rapidly increasing. It fills a place in the garden not occupied by any other plant, and at a season when flowers are always scarce it gives a supply of a most desirable quality. What has already been sent out is a white variety and this for florists' use will always be in great demand. For vase flowers, however, a variety of colors would be highly desirable, and it is a pleasure to say these have been under cultivation and in the present season will be offered to the trade. The colors which have already appeared are light and dark pink, light crimson, and purple. At present the seeds of these varieties are in mixed colors, having not yet, to much extent been grown separately; but for most amateurs this will be quite as desirable as to have the colors separate. These colored varieties have the same habit of growth and late blooming as the White Branching, and a supply of them for the autumn garden will become almost indispensable. The extremely graceful flowers, long, stiff stems, bright colors, with the pure white, are all points of great merit, and when the abundant blooming habit of the plant is considered, it will be seen that the Branching Aster is a requisite in every well-appointed flower garden.

Anemone Whirlwind. The excellencies of this new favorite are receiving general recognition by professional florists and amateurs, both in this country and Europe. Both as a cut flower and in the garden the blooms are more lasting than those of the single white and on these accounts it is to be preferred. But tests also show

that it is a hardier variety, and this is a point especially valuable. It is a beautiful plant in its season—September and October—and may be planted in the flower border, shrubbery border, or in beds on the lawn. A large bed standing alone on the lawn is a grand object.

Hibiscus Sunset. This newly introduced plant is gaining many admirers, and only requires to become well known to be generally planted. The plant grows quickly to a large size and continues for a long time to produce handsome flowers.

Hypericum Moserianum. The Gold Flower, is a plant which, as yet,

is scarcely known, but if beauty is in demand it will certainly become a favorite. The great, bright golden yellow flowers, with a sheen that is brilliant beyond description, and a mass of silk-like stamens, are almost dazzling in their reflection of light. The flowers of all the hypericums are handsome, but this excels in size and in its long season of bloom. It must become a very interesting and attractive occupant of the hardy border.

Anthemis tinctoria, or Golden Marguerite, is a hardy perennial, an illustration of which is here shown.

It is a handsome plant, both in foliage and flower, the general appearance of both of which are faithfully presented in the engraving. The plant is about a foot and a half in height, and blooms from June to August.

Myosotis palustris semperflorens, the Double-flowered Forget-me-Not, was briefly noticed last year. It is a charming little plant, hardy, and produces its little double flowers very freely and for a long time.

Campanula persicæfolia. The Peach-leaved Bellflower is another valuable hardy plant and produces numerous bell-shaped blue flowers which are fine for cutting to be used as vase flowers.

Lythrum roseum superbum. The Superb Loosestrife is deserving of its name for it is a beautiful plant, producing in great abundance large spikes of bright rose-colored flowers. It is a handsome hardy border plant which should be generally known.

Phlox amana. This little Dwarf Phlox, which grows only about six inches in height, is a beautiful edging plant and produces an immense amount of bloom all through the spring. Flowers bright pink, growing so numerously and so thick together as to form a perfect mass of color.

Iberis sempervirens, or Perennial Candytuft, is an excellent spring blooming plant. It grows about a foot in height and produces numerous heads of pure white flowers. It is quite hardy and will be sure to prove satisfactory in any garden.

The illustration on following page shows the general appearance of a branch in bloom.

Abutilon Souvenir de Bonn. This new applicant for public favor has some distinct claims. The first of these is its peculiar foliage. Each leaf is broadly margined with white and this strong contrast of white and green is a very ornamental feature. It bears large yellow flowers striped with crimson, and these are freely produced. The plant is a strong, erect grower, making a large plant in a short time, which is covered from top to bottom with its handsome leaves. These characteristics of this variety



ANTHEMIS TINCTORIA, OR GOLDEN MARGUERITE.

are substantial ones, and when taken in connection with the fact that all abutilons are well adapted to house culture, it will be seen that this plant is quite desirable. Besides, it may be added that it will prove a fine center piece for a lawn bed. That after having it in the house during the winter it can be bedded out in the summer and thus be of effective service in both situations.

Double Sweet Pea. A novelty of great attractiveness was brought to notice the past summer, being nothing less than a double Sweet Pea. The banner, that is, the upright portion of the flower, is duplicated and frequently triplicated. The lower portion of the flower is white, while the banners are a clear rose color, a combination soft and pleasing. A large percentage, the greater portion, of all the flowers are thus increased in size, greatly to their showiness and durability. The variety is quite constant, reproducing itself from the seeds. It has been carefully bred for a number of years and will prove a fine acquisition to all lovers of sweet peas. The quantity of seeds of this beauty is yet quite limited and will not be offered to the public until another year. Everybody, however, is invited by James Vick's Sons to cast a vote for a few names which have been proposed for it. When that preliminary is settled, the distribution of seeds will be next in order.

Among the new vegetables probably the most conspicuous one at this time is the *Improved Danish Ballhead Cabbage*. It has surpassed all expectations. Its solidity is phenomenal, the greatest amount of substance being packed away in the smallest space, making it very superior for shipping and keeping, and the quality is unequalled. A case within our knowledge is that of a person who raised a considerable quantity of this variety and took them to market. To his surprise the shippers bought his loads every time in preference to all others offered although other varieties of cabbage were frequently much larger. It is needless to say that the other growers eagerly examined this new stock and learned its peculiarities, and now know where their interests in cabbage growing lie. The Danish Ballhead Winter will make itself friends wherever introduced.

The Charmer Pea brings renewed expressions of praise from growers of the past season. No known variety combines productiveness and excellent quality to the extent of this one. These traits commend themselves to every private grower for family use, but in a far greater degree are they desirable for the market grower. It is a variety that must be very generally raised. A representative of a large canning establishment recently informed us that it was the most valuable pea ever raised for canning purposes.

The Greenville Strawberry appears to be one of those varieties which occasionally appear that do well everywhere. Such have been Wilson's Albany, and the Crescent. Many varieties appear to do their best in particular localities, or to be satisfactory only under certain conditions. The Greenville is at home everywhere, and everywhere in comparison with other varieties gives large yields of excellent fruit of fine market character. It is a variety destined to stand by us for a long time.

The Columbian Raspberry, which for the past two years has been brought to the notice of our readers, is now fairly on the market and everyone can test it. It behaved splendidly the past season, notwithstanding the severe drought it had to contend against. Our opinion of it has been fully given in a recent issue, and we will here only say that we believe that it will be the leading variety cultivated both for canning and evaporating purposes, while its excellent quality will make it most acceptable for table use in a fresh state. In vigor of plant and productiveness it is unexcelled.

The American Banner Oats, which have now been cultivated largely for a number of years, still hold their precedence and are unsurpassed in productiveness and solidity. Farmers generally should procure this seed and thus secure large crops for the amount of acreage sown.

The Giant Knot-grass, *Polygonum Sachalinense*, though as yet but little known in this country, has so much evidence in its support that it is probably destined to fill a place that has long wanted an occupant in all parts of the country—a plant which will yield a large amount of fodder even in dry places and in dry seasons. It appears from abundant testimony that this plant has such a capacity, and consequently will be everywhere wanted. It is a pleasure to say that for a number of years this plant has been under our personal observation and that we can bear witness to its luxuriant growth, and also to the fact that in a fresh state it is readily eaten by cattle and horses. How it will be best to cure or preserve the fodder for use will be determined in future practice, though where it has been raised for fodder it is claimed that it can be cured like hay, or preserved in silo. The plant is very vigorous and in a short time takes full possession of a piece of ground where it is planted. It makes a net-work of rhizomes, or underground stems, at a depth of four inches, and these send up numerous shoots, so that by planting sets or seeds in

hills five feet apart the intervening spaces will be filled the second year. A planting of this kind will remain vigorous for many years, and without cultivation will allow of at least three cuttings in a season with a yield of many tons of acceptable fodder.

THE MILD WINTER.

The high temperature which has prevailed over the country for the past twelve months still continues, and at the date of this writing—December 20th—the frost point is but little exceeded in cold at night, while the days are like those of October or November as usually experienced in this region. A similar condition prevails in most parts of the country and Canada. Without inquiring into the cause of the abnormal heat, which, however, careful observers understand to be that of peculiar conditions existing in the sun, we may note the probability of its continuance, and its consequent effects on agricultural and horticultural interests. From the fact that the commencement of the heated period, and its continuance so far, corresponds with the

sun spot maximum, which is now at its extreme, it is fair to presume that it will still continue for a longer or shorter term, but probably for some months at least. The rain and snowfall for the past month, as also for many months past, has been light and the area of country east of the Rocky Mountains, far to the north in Canada and British Columbia, is almost free from a snow covering. It is needless to say that this is an unfavorable condition for winter grains, and, if it should continue much longer, will materially injure the prospects of a good crop. Fruit growers, too, must regard with apprehension these bright, mild days which cause the sap in trees to form and the buds to swell, as they are thus rendered liable to destruction by a severe turn in the weather which is almost sure to come at some time during the winter, or still more surely in the spring. But these are conditions which no foresight or care can obviate, and should be borne with the philosophy of calm resignation and buoyant hope. On the other hand, farmers and gardeners never had better opportunities to perform work which usually is delayed until spring, and often too late to be fully effective. The preparation of ground for early crops can be made now, so that planting can be done early in the spring. No better time for plowing for oats, or preparing land for sowing to onion seeds or peas. In fact the early or smooth peas can be sown now to advantage.



IBERIS SEMPERVIRENS, OR PERENNIAL CANDYTUFT.



WORKING IN FLOWERS IN ONE OF THE ROSE HOUSES, AT GRASSE, FRANCE.

FLOWER PERFUMES.

The art of perfumery has been carried to that extent that most of the peculiar odors of flowers have probably been fabricated, and the cheap perfumes that everywhere may be purchased are the result of this work of counterfeiting.

Nevertheless, the most valuable perfumes embody the real odors of flowers, and a brief account of some of the operations in obtaining these odors will show why such brands of perfumery are costly and must always be so. *The Saponifier, Perfumer and Druggist*, last summer published an article with an illustration, which is here reproduced in part, giving account in a general manner of the methods of procuring the odors of flowers.

To fix the fragrance of a flower, to perpetuate the volatile sweetness of an essence, is a problem not unworthy of the chemist; and chemists of no mean caliber have devoted such attention to it, that the difficulty exists no longer. Flowers live again in their scents, and the last rose of summer leaves its sweet soul behind it. Not long since, conceiving this matter interesting, and desiring to get at the root of it, says "The Black and White," of London, Eng., we sought out Mr. Grossmith, that famous magician of perfumes, and with his permission, wandered through the wonderful stores of Messrs. Grossmith, Son & Co., in Newgate street. Here aromatic treasures of every sort greet the tickled nose with delicious savours. From Grasse, from the Alpes-Maritimes (the center of the flower culture), and from elsewhere, come the French *pommades*, which are the crude bases

of the future perfumes. Our illustration shows an interior of one of the rose houses at Grasse. Here knee-deep in freshly plucked flowers and before long tables, also piled high with them, sit rows of women engaged in plucking the pistils and stamens from the heart of every rose. This operation performed, the flowers are thrown into a lake of melted fat, which compound is presently allowed to cool. Anon the fat is melted again, the roses taken out and pressed, and a fresh stock thrown in. Every twenty-four hours the process is repeated until the fat is saturated with the scent of the flowers. Thus are roses, violets, orange blossom, and cassies treated, but other flowers are of more delicate and subtle perfume and require different handling. To the jasmine and jonquil and tuberose, a process known as "enfleurage" is applied. "Enfleurage," or absorption is thus carried out: Thin layers of wax are spread over glass frames, and upon the wax the flowers are laid. In process of time the grease sucks up the delicate scent, and fresh flowers are supplied until a sufficient strength of perfume is attained. A pound of this delicately scented wax represents the essence of from six to eight pounds of flowers. These figures, however, are trifling, if compared with those we may briefly mention here in connection with the famous otto of roses.

This important ingredient of perfumery is distilled from roses grown almost entirely in the Province of Kezanlik, Bulgaria. They are cultivated to great perfection in a valley at the foot of the Balkans, watered by the river Thurigna. In this district a single narrow strip of land, extending some forty miles east to west, produces an average of five thousand five hundred pounds of otto annually. Of this quan-

ity England and France consume the bulk. It is at first hard to realize that a vase containing no more than eighty ounces of otto is worth £100; but our surprise grows less in one direction and our astonishment much increases in another, when we learn that into the little eight ounce vase has been compressed the essence of seven tons of roses.

To return to the fat, now fully charged with scent. At Messrs. Grossmith's laboratory we shall find a wonderful machine which now deals with it. Into this apparatus a portion of the fat is poured, together with its own weight in spirits of wine; and the machine does all the rest. For the space of three days and nights it labors incessantly, and at the end of that time a strange transformation has taken place; the fat has yielded up its precious stores of sweetness to the spirits. Being duly drawn off, the scented spirits of wine are now known as "French Extract," a commodity which forms the body of most of our celebrated and delicate scents.

A two-ounce bottle of the best "French Extract," usually termed "Triple Extract," contains the fragrance of one pound of freshly culled flowers; and to this must next be added another highly valuable ingredient in scent manufacture—the essential oil or other material necessary to support and fix the perfume.

There are many essential oils, of which no less than four of the most important—viz., neroli, petit grain, bergamot, and orange, are produced from the orange tree. This species, which differs from the China, or sweet orange, is largely cultivated in the South of France and Italy, as it yields in addition to these various oils the invaluable orange flower water, and the orange-blossom *pommade*, manufactured as has been explained.

Another famous essential oil comes from Mitcham, in Surrey, and most tourists have probably seen the beautiful lavender fields which scent the air of that district in summer time. The stiff spikes stretch away in parallel rows, crowned with blossoms. At hand they are dotted and gemmed with butterflies—the "Garden White," the "Peacock," the "Red Admiral," the "Tortoiseshell." Far away the swelling fields stretch out under the sunshine with a haze of delicate color that ripples like a summer sea to the foot of English hedgerows and lofty elms. The famous Triple Lavender Water may be considered the choicest English scent; and it is interesting to know that though repeated attempts have been made to cultivate lavender in many different parts of England, yet the results have never approached those attained at Mitcham.

Of the other essential oils space forbids us to treat. * * * * The scent industry employs many thousands of men and woman, and a French physician records an interesting fact which serves to point the extreme healthfulness of the occupation. Far from the scentladen atmosphere being injurious, sweet odors would seem to have a positively healthy influence on the air, for, during an epidemic of cholera in Paris, when not less than ten per cent. of the entire population was affected, the "hands" at a perfumery, numbering above ten thousand, were entirely exempt and escaped from the disease.

You see, dear madam, how much has gone to complete and fill your little bottle of perfume, with its pretty cork, the dainty label on its side, the soft silken ribbon so artistically bound about its neck. Its high perfection has commanded the sustained labors of science; for its production animal and vegetable nature have been ransacked; in its pure depths lies the hoarded sweetness of perhaps a thousand blossoms.

THE COLUMBIAN RASPBERRY.

AFTER an experience of nine years in the cultivation of this valuable variety of raspberry I can say that it has been tested in every kind of soil and in twenty different localities, and all who have tried it, excepting one, speak of it in very flattering terms. The one exception was where the plants were set in a poor clay spot, which did not afford them a fair chance, as the person making the test himself admits.

It has stood the winters of this locality for nine years without protection and seldom shows any winter-killing to do any harm, and has never failed to give the largest yield of berries, of finer and better average in size and quality than any raspberry ever raised in this region. The berries retain their full size to the last of four weeks' steady picking.

When other berries, by reason of drought, have been almost a total failure, the Columbian at such times has always matured its fruit, even to the last set, so perfectly that a crate of the last picking has been of as fine quality as any during the season.

This is owing to the vigor and health of the plant in connection with its remarkable system of roots; on suitable soil the roots will fill the ground two to three feet deep, spreading over the entire surface, even if the plants stand twenty feet apart. I have traced roots over eleven feet in length and dug them up and exhibited them at the fair.

One of the characteristics of the Columbian is that it throws up new fruit canes during the time of fruiting, which bear some of the most luscious berries of the season, and continue to

do so, to some extent, into the fall. Its prolific qualities are simply immense. I raised on one-third of an acre 2,800 quarts in the season of 1893. As I was obliged to remove every other row on this piece of ground in order to layer the tips I did not keep track of the fruit the past season. On another field of 3,500 bushes there was an average of five quarts to the bush, or 17,500 quarts. Both of these results were obtained the second year after setting plants. The first crop was about one-third of the amount mentioned, or a little over 1,100 and 6,500 quarts respectively.

I have a considerable number of plants which have fruited more than two years, and all of them have done finely every year and all are alive and healthy.

The original plant is ten years old next spring and has loaded itself down with berries without a failure for seven years, and now has eight canes twelve to sixteen feet long, as promising as ever. This clump or group of canes, which was seven feet in diameter, fruited from nine feet high down to the ground, and was the wonder of everybody. Many estimated it to contain thirty quarts of berries. I never picked them, but left them to show that they will dry on the bush before falling; no other raspberry that I am acquainted with will do this.

I have desired that this variety should be thoroughly tested in every way before offering it to the public, and after many years' trial I can say with confidence that the Columbia is the most valuable berry for canning and evaporating now grown. As a first consideration it has a high flavor, and another it does not shrink or go to pieces in canning like other berries; according to an actual test at the Oneida Community canning factory it shrunk 25 per cent. less in the process of canning than the Shaffer berry, as the testimonials of the processor and superintendent of these works witness.

The canned and evaporated products were both the admiration of everyone that saw them, and took first prize at the State Fair last fall. Several thousand jars of this berry were sent out last season (1893) on trial and all brought back the highest praise.

The past season (1894) I sent out several crates to test the shipping qualities of the fresh fruit; the result was that I could not fill all the orders which came in, and I sold nearly all my crop (about 20,000 quarts) fresh from the bush, as fast as I could get them ready.

The Columbian berry will do well on any good corn land. Old ground is preferable, but either should be plowed deep and thoroughly pulverized. I should mark the rows eight feet apart and not less than five feet in the rows if for fruit only. If I wanted to raise plants six feet would be better. Follow the mark with a small plough making a furrow four inches deep, and set the plants opposite the cross-marks; spread the roots so that the soil will come in contact with them, and put on a little soil and press it down firmly, and add two inches more, leaving it quite mellow and about two inches lower than the surface of the ground, which will become filled. The growth of the bush the first year is spreading, very much like the blackcap. The canes will be from one-half to three-quarters of an inch in diameter and from three to eight

feet in height in good ground, and will cover nearly the whole surface of the land; by heading back we get more plants, but it does not make much difference with the fruit either way. I head them about sixteen inches high. I cultivate both ways as long as the bushes will permit, and then the other way as often as necessary to keep the ground clean and mellow.

Unless the land is in good condition I would use from fifteen to twenty loads of stable manure or 1,000 to 1,500 pounds of unleached ashes and from 800 to 1,000 pounds of ground-bone to the acre, or both, as one can afford. One can be assured that good results will come from it for years. I have tested ashes on my soil (a sandy loam) for three years and have had the best results of any fertilizer from the money spent, and for fruits of any kind I believe there is nothing better than ashes and ground bone.

The first fruiting year after setting plants we may expect from 1,800 to 2,500 quarts to the acre, about one-third of what the next year's crop will be. It is important to keep the berries off the ground, to keep them clean. Being the first year's growth of cane and of that spreading nature, I find it pays to tie them up or mulch them; if I tie them I train up the lateral branches within five inches of the main canes, leaving these from three to four feet long; when I mulch the plants, I trim them shorter, forming more of a bush top and put on the mulch which consists of straw or some other cheap material, just before the berries begin to ripen.

When old straw can be had from \$4.00 to \$5.00 per ton, I think it pays to mulch, as it keeps the ground moist and clean and affords better picking. The mulch will work into the soil and does some good as a fertilizer.

The new growth of canes this season will be upright and strong, and by heading back the canes become very stocky and will bear up the immense yield which may be expected the next season,—a yield of four to eight quarts to each bush, according to the condition of the soil and the care that has been given. Immediately after picking I clean out the old wood and prepare the ground by plowing very shallow, not over two to three inches deep, and drag down with a fine-tooth drag or cultivator. In preparation for laying the tips, which should be done from the twentieth of August to the fifth of September, cultivation is done the same as the first season. I find it very convenient to have a cart made narrow, or about three feet tread, with a rack to set on the box. With one horse I can drive between the rows, in early spring and after berry time, to haul in fertilizer and to take out the brush, etc. The method of operating as above described is especially adapted to field culture.

For the garden and for small patches, and to get the greatest yield, I would set the plants close; with rows seven feet apart and the plants in the rows three feet apart. My largest yield, 2,800 quarts on one-third of an acre, was produced in this way. I did not head the canes back, but let them grow, some of them reaching sixteen feet in length. I cut them back in the spring to four feet and wired them with two-wires and stakes.

For ornamental purposes a few bushes may be grown separately in a garden, fruiting from the ground to eight to ten feet high by seven feet broad and loaded with twenty to thirty quarts of immense berries and beautiful foliage. Such specimens form a novel and interesting sight on any grounds.

J. T. THOMPSON,
Originator of the Columbian Raspberry.

THE DIERVILLAS, OR WEIGELAS.

THE Diervillas, or Weigelas, are shrubs of erect habit when young, but gradually become spreading and drooping as they acquire age. They attain a height of from four to six feet and as much in breadth. The funnel-shaped flowers are produced in the greatest profusion during the months of May and June, the precise time depending on the season as well as the situation in which the plants are growing. The individual flowers are quite large and of all intermediate shades and colors, from dark crimson to pure white. The leaves are oblong ovate acuminate in shape, and, with the exception of a few varieties, of a bright green color.

All of the species and varieties are exceedingly ornamental, and many of them should be found in collections of ornamental shrubbery, as they are admirably adapted for single specimens on the lawn, as well as for grouping or massing with other shrubbery.

As the Diervillas are perfectly hardy and of vigorous growth they will do well in any soil or situation, but to enable them to do their best should be given one that is deep and moderately enriched. While the shrubs are small, grass or weeds should not be permitted to grow around or near them, and occasional top dressings of good stable manure will be decidedly beneficial. This should be applied in fall. The Diervillas produce their flowers on the wood of the preceding year's growth, so they should not be pruned until the flowering season is over, when the old wood may be shortened to promote the growth of the new which is to bloom the following season, but the branches should be reduced only enough to keep the shrubs in good shape, as it is very desirable to preserve the natural habit of growth as far as possible.

Propagation is readily effected by cuttings, which will grow if taken off in the autumn and planted in a nicely prepared border. As good

which gradually change into pale rose. It blooms in July, about two weeks later than the others.

D. *amabilis*. Is commonly known as the Lovely Weigela. It grows about five feet in



DIERVILLA, OR WEIGELA ROSEA NANA,—VARIEGATED-LEAVED WEIGELA.

height and is most distinct and beautiful. It blooms during the month of June, and during that time the beautiful, large, pink flowers are produced in such profusion as to almost cover the entire shrub.

D. *floribunda*, the free flowering Weigela, grows about five feet in height. It blooms dur-

ing the month of June, and the pendulous flowers are of a deep crimson color.

D. *rosea*. The rose colored Weigela is an elegant, compact growing shrub, with fine rose colored flowers which are produced in the greatest profusion, during the months of May and June. This shrub was sent from China by Robert Fortune, to whom we are indebted for many valuable plants and shrubs, and it is considered to be one of the finest of his introductions. It grows about six feet in height.

D. *rosea Desboisi* resembles *rosea* in all respects except in the color of its flowers, which are of a deep rose. One of the darkest and best varieties.

D. *rosea* var. *nana foliis variegatis*, is the variegated dwarf Weigela. It is a most beautiful shrub with rosy-pink flowers, which are produced in the greatest profusion during the month of June. The foliage is most handsomely variegated, having a clearly defined silvery margin, which stands the sun well and places it as one of the best variegated shrubs in cultivation.

D. *rosea* var. *Kosteriana foliis variegatis*. Koster's Weigela, is a very choice and rare shrub of recent introduction. It is of dwarf, compact growth, with deep rosy-pink flowers, and its foliage is most beautifully margined with golden yellow.

LOVETT'S EARLY STRAWBERRY.—Bulletin No. 26 of the Hatch Experiment Station of Massachusetts, says of this variety: Although not ripening as early as many other varieties, it blossoms early and makes an excellent fertilizer for such kinds as Bubach, Haverland, Greenville, and other early pistillate varieties, besides producing a large crop of fruit of fair size and very good quality. It will supply the place filled by the Beder Wood, Michel's Early and Shuster's Gem, which in the past have been used for this purpose but which should be discarded on account of rust and small size.

FUNGICIDES FOR RASPBERRIES.—The same bulletin reports the use of copper-sulphate solution and Bordeaux mixture for anthracnose and fungi of raspberry plants. The copper solution was used before the leaves started, and the Bordeaux before the blossom opened. It is remarked that little of the anthracnose, or yellow rust, appeared. This is a negative report for it must be borne in mind that fungus diseases of plants were not prevalent the past season, the weather, in all the northern portion of the country at least, not being favorable for their development.



DIERVILLA, OR WEIGELA ROSEA.

specimens can be procured at very moderate prices, I know of no reason why they should not be more rapidly disseminated among our amateur cultivators.

There is in cultivation a considerable number of varieties, from which I have selected the following as the most desirable, although a dozen others could be added, and very justly too.

D. *arborea grandiflora*. Grows about six feet in height and is a very vigorous-growing, large leaved sort, with creamy white flowers

Croup Cured After Doctors Failed

"When a boy, I was subject to croup, the last attack being when about twelve years old. The doctor had almost given me up, every remedy that he tried having failed to afford relief. At last, he gave me Ayer's Cherry Pectoral, and a speedy cure was the result. I have always believed that Ayer's Cherry Pectoral saved my life, and often recommend it to others."—W. S. TURNER, Norwood, Ga.

Ayer's Cherry Pectoral

For all Diseases of Throat and Lungs.

AYER'S the Only World's Fair Sarsaparilla.

Letter Box.

In this department we shall be pleased to answer any questions relating to Flowers, Vegetables and Plants, or to publish the experiences of our readers. JAMES VICK

Roses in Texas.

Thinking perhaps you would be interested in what results may be had from stock from your place when cultivated in the mild climate of Texas, I take the liberty of sending a sample in the enclosed photograph. The roses composing the picture are of the following varieties: Queen's Scarlet, Madame Joseph Schwartz, Sunset, Catherine Mermet, Hermosa, Snowflake, Aline Sisely, unknown pink shaded rose, Safrano, Etoile de Lyon, all of which, except the two last named, are from stock purchased in Rochester, and were cut on Dec. 2, 1894, in open ground, and without protection. You will doubtless recognize the varieties, and will know their delicate coloring from the photograph. If a colored plate was made from the bouquet it would make a handsome page for the *Floral Guide* for 1895.

MRS. H. E. W.

Taylor, Texas.

The photograph of a basket of roses received with this letter is a very handsome one and shows the flowers in great perfection, attesting both the mildness of the climate where raised and the care of the cultivator.

Amaryllis—Achania—Oxalis.

1—I have a young bulb of amaryllis and it is growing well. Would like to know what is its season of rest; and (2) how large will a mature bulb be?

2—Can I grow cuttings from my achania and oxalis Ortigiesi?

4—How old will my Otaheite orange be before it will blossom?

J. W. J.

Glenville, Minn.

1—Without knowing the species it is impossible to answer definitely. While it grows and is doing well continue to supply necessary water, but if it shows signs of ripening its foliage check the water and keep the soil only very moderately moist.

2—This question cannot be answered for the reason stated above.

3—Yes, the achania and O. Ortigiesi can be increased by cuttings.

4—The Otaheite orange commences to bloom when quite young, often the first year from the graft.

Knot-Grass, the New Forage Plant.

An inquirer, G. A. B., of Mulvane, Kansas, asks many questions about this plant, in regard to nearly all of which information is given in the article published in the September Magazine of last year. Two of the questions are as follows: "Is it liable to become a nuisance, taking the farm? Can it be easily exterminated?" As we have had experience with it a number of years we can answer the questions from actual knowledge. It is not probable that the plants will seed in this country. The heat of our summer appears to be too great for the seeds to fill out well. There is, therefore, no danger of its spreading by this means. But it spreads by its roots and will quite fill the ground that is appropriated to it, and this is a very desirable trait. It will not, however, encroach to any extent upon land not devoted to it; and, secondly, it is easily plowed up and turned under, and if the land so treated is planted with a summer crop which can be cultivated, the roots will mostly be destroyed the first summer; two years of cultivation will end it. It is not a plant which we think will ever give much trouble by its aggressiveness. We have had experience in

turning it under and know that it can be easily subdued. It is a remarkable plant on account of flourishing both in cool and warm climates, on all soils, and under all these circumstances producing a heavy yield of tops.

A Friendly Letter.

The December number of VICK'S ILLUSTRATED MONTHLY MAGAZINE is just at hand. I like it very much. I think the Magazine is very much improved, is quite practical and your correspondence interesting. I am interested in your method of giving illustrations of flowers, a history of their origin, their habits and mode of culture, in simple style so that the common reader may use the information given. I am also interested in the culture of celery for our own use, a thing in which I have always failed, after repeated trials. Next year I shall try the method given in your last issue. It is quite simple and looks plausible. I love gardening and fruit culture. I think they are healthful and ennobling. Then flowers, and trees, and fruits, and grains, are the products of nature, gifts by the hand of the great God. They are all beautiful and useful, and can all be improved by cultivation. And in this they are lessons to us in the cultivation of our moral natures. I like true stories, well written, containing lessons of wisdom in all the relations of life. I do not enjoy continued serials or made-up stories. There is truth enough in the universe—why should we waste our time on fiction? Stories should be real and short, containing some lessons of truth clearly brought out. Of course they are much more difficult to write than mere fancy sketches, which any imaginative person, after a little practice, can draw out. A real story based on fact demands research, study and investigation. The writer must go out in real life and find the material, and then weave it into a truthful web that will not break. This is too much labor for the myriads of vapory writers who fill our land with their shallow productions, as the insects covered the land of Egypt in Pharaoh's day. But I am glad a better day is dawning and that realism is taking the place of vapory fiction. Stories of flowers, and bushes, and trees, and grains, and fruits, and soils, and seasons, and clouds, and rains, and rivers, with real men and women, well written, will lift us all up into a higher plane.

J. V. P.

Easter Lilies.

In your Magazine of December, 1894, it is asked how to bloom Easter or Bermuda lilies the second or third time. Here is my mode of treatment: As soon as in March or the last of February I dig a hole in the ground about twenty inches deep and put therein about six or eight inches of fresh cow manure, if I have it. Then I knock dirt and bulb all out of the pot together and dump it all on top of the manure and fill the hole up a little rounding and leave it to grow and bloom the following summer,—of course it will be late in the summer. If I see the flowering stem is a weak one I just cut the top off the first year, not allowing it to bloom. In the fall I always mulch with good rotted manure; and for three or four years I have as nice bulbs as you can buy of any florist. I have two or three now in my house with three to five buds on and they will be out in bloom in a week or so.

J. A. H.

Newcastle, Ind.

We take pleasure in publishing this answer to the inquiry of December, but think there are points about it which are not quite clear and shall be obliged to the writer if he will take more space and explain more fully next month. The obscure points are these: The date given for turning the bulbs into the open border is too early, that is, it is before the Easter season and therefore before the plant has bloomed in the house; and, again, it appears by the treatment described a blooming bulb is secured for the garden and not for the house at the next Easter season, as the enquirer evidently desired to know. And, yet, J. A. H. says "I have two or three now in my house with three to five buds on." Between the garden and the house there must be some operation not described. If the writer will kindly take time and space and clear this matter all up he will probably receive the thanks of many lily-growers.

The Blind See. Queries.

Several years ago I was a subscriber to your valuable Magazine, but growing blindness caused by cataracts of my eyes, made reading impossible, and so I was forced to give up the study of my beloved flowers; but now, thanks to the triumphs of science and surgery, I can see once more, and am so glad and thankful, and the world of bud, leaf and flower seems almost like a new miracle. Since the restoration of my sight I have had the pleasure of reading your publication occasionally, but I hope to be a subscriber myself this year, although it is hard times. I notice you solicit questions and observations, and I would like to ask what is the matter with soil when it cracks even when it is not very dry? The soil in this locality is a stiff clay, but I thought I had for potting soil added enough sand to overcome the stiffness of it, but still it will crack. Does it need more sand? 2—Is saltpetre and crystallized ammonia a good stimulant for houseplants? The formula is two ounces of saltpetre, two ounces crystal ammonia, dissolved in one quart boiling water, bottle and cork tight as soon as cool, and when used add two tablespoonsful to a gallon of tepid water. Prudence Plain, in the July number, wrote of three nice vines. I have tried to get a pot of smilax, but all my efforts, by transplanting the bulbs, are in vain. And P. P.'s description of *Campsidium silicifolium* makes me feel desirous of trying it, but she does not tell how it is propagated—by cutting, root, or seed?

A. J. G.

Delaware, Ohio.

The soil needs vegetable matter. An addition of an equal part of leaf-mold will make it all right. The black vegetable mold that may be found on the surface of the ground in the woods is the substance.

2—The substance described is, no doubt, a good fertilizer.

Campsidium may be propagated by cuttings.

We know of no particular difficulty in raising the smilax. Prudence Plain, in the article referred to, tells very clearly how it is done.

Amaryllis Treatment.

I saw in the Letter Box in your December number inquiries made about amaryllis and the treatment given, and as the treatment mentioned is not the same as mine, I give you my experience. I have several pots of a kind of amaryllis, which some call the Florida or Georgia Rice Lily. The leaves grow like the Amaryllis Johnsonii, and the blossoms are as large and grow the same as the Amaryllis Johnsonii, but the color instead of being a dark carmine or flame color, like the Johnsonii, is an orange color with a cream white star distinctly defined in the center. I keep them up all the year, and they blossom in winter and again in summer. I let the pots be so full of balls that they crowd each other over sideways. I have at present one eight-inch pot containing thirteen bulbs, four of which have two blossom stalks each, and the other nine have one each, making seventeen blossom stalks all in one pot. The same pot had thirteen blossom stalks last winter, and also blossomed in summer. They are from eighteen to twenty-four inches high when in blossom and are grown in our sitting room. I have tried turning them down at different seasons but they don't do as well as when kept growing.

MRS. A. F. H.

Guildford, Conn.

The plant here described is probably *Hippeastrum equestre* or one of its forms. The directions of treatment as given in the December number are sufficiently explicit, being intended as general instructions and for plants under different conditions of house culture; quite right for bulbs kept in a cool window, as most bulbs are. Of course it is understood that when a warm temperature is continuously maintained a greater amount of water is needed. Probably most of the plants commonly known as amaryllis are species of *Hippeastrum*, but a few are truly amaryllis, others *crinum*, *nerine*, *sprekelia*, *sternbergia*, *vallota*, and other forms of amaryllids. Some of these require different treatment from others.

NEW MARLIN RIFLE.



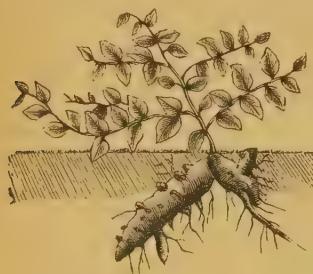
Only 25 Repeaters made. Write for catalogue to

THE MARLIN FIREARMS CO.,
New Haven, Conn.

MY EXPERIENCE WITH VINES.

THAT experience is the best teacher is true—in the care of house plants as in everything else.

We see a lovely picture in a floral catalogue or purchase some new variety at the greenhouse. With much satisfaction we install it in the post of honor in our flower-stand or window, when soon, lo, and behold! its beauty begins to wane and turn pale. We try a little more water and a change of position nearer the sunshine, but it is all of no avail. A few days more, and the plant is too far gone to be an ornament, so with



MADEIRA VINE AND ROOT.

a sigh of regret we consign it to the ash-heap in the back yard—all because we did not understand the needs and habits of the plant.

Especially have I been disappointed in climbers. One naturally desires something to drape, as it were, around the bare outlines of the stand or window-frame. The German or parlor ivy was highly recommended to me for such decorations, but after repeated trials it has proved a failure except in cool situations. In a warm room it grows very weakly and is infested to a great degree by the green aphids.

The English ivy is beautiful and will not dwindle so perceptibly, but sometimes I have waited months for any sign of growth from it.

The Passion Flower vine will make a weak and sickly growth, but the more mature leaves curl up and drop off in the most provoking manner, leaving the bare awkward stems.

So too with the climbing nasturtium which some speak of highly as a vine for the house, but with me it has utterly refused to accommodate itself to the dry, warm atmosphere.

My mainstay and vine par-excellence for indoor use is the Maderia vine, a climber or twiner, as it must have some support—as strings or wires. It is a bulb, or more properly a tuber. I have had them varying from about the size of the end of your thumb up to the proportions of a large potato, which they much resemble. A medium sized tuber, freshly potted in good fair garden soil, will almost immediately begin to grow, sending out its glossy green leaves and twining tendrils in cheerful indifference to circumstances. It will bear heat and dust, although it loves sunshine it will do its best even in a shady place, and if you cannot take it to the kitchen sink and give it a good shower bath it will be grateful if you sponge the leaves every few days, and I have never known it to be troubled by insects of any kind—always clean, bright and growing.

The only disadvantage in its use is that the tubers multiply so rapidly as soon to fill the pot or box—so they must be given a good sized one at first.

ALMA.

BRIEF PLANT NOTES.

PELARGONIUM CAPITATUM is the true rose geranium, cultivated for its oil, among perfumers.

The Michaelmas daisies, of England, are our wild asters.

Solidago, that numbers such an extensive variety of the golden rod, is common both North and South. But unlike other flowers it does not bloom first in the South and later in the North. In Mississippi, Alabama, and other Southern states it is strictly an early autumn bloomer. In New Hampshire and Vermont it blooms in July and August. On the coast of the Gulf of Mexico it shows a dwarf variety, a most beautiful golden shade.

The cherry was introduced into England by the Romans. It takes its name from Cerasus, an Asiatic town where it was first cultivated. It is said to have been carried to Italy from Asia by the Roman general Lucullus.

The pear, Pyrus communis, is said by botanists to be indigenous to the soil of Great Britain, but material improvements have been wrought upon the species by the introduction, long ago, of improved varieties from Asia.

The apple tree, Pyrus malus, is said to be a native of Europe.

The cocoanut cannot positively claim any country as its native home. It is of tropical growth, but has been borne by the waves of the sea and washed ashore on so many islands and southern countries that it is not known where it first originated.

Vines cling to supports in different ways. The bean vine winds itself around poles; hops cling the same way; grapes, peas, and passion vines cling by tendrils, which tightly clasp their support, firmly securing the growing vines.

The thunbergia twists the stem of the leaf around a twine or trellis or whatever support is given it.

The trumpet creeper puts out a queer little growth, like a web-foot, from the points of the stalks, and they cling to wood or stone with a glue-like tenacity.

Ivy clings by aerial roots that grow thickly on the under side of the stem.

Plants form their buds in many curious ways. The Cereus grandiflora or true Night-blooming cactus forms its buds unlike any other plant. At first spots on the stem will enlarge and then open. A woolly tuft of spines will appear and it takes some time to decide, from observation, whether it is a bud or a new shoot. It sometimes takes a bud a month to open.

In cold countries nature provides all buds on trees and shrubs with thick, outer scales, lined with a soft downy growth. These scales have had the practical term "winter cradles" applied to them. Oranges and lemons bud in the fall, but are not covered with outer scales, as the warm climates of their growth do not demand such protection.

Flowering plants on the coast of the Gulf of Mexico produce abundant blooms under shade trees. It is accounted for by the nourishing properties of the saline breezes from the Gulf. No matter how much substance the roots of the trees absorb from the soil, there is both food and moisture in the air for the plants which grow under their shade.

MRS. G. T. D.

Pass Christian, Miss.

PLANTING SWEET PEAS.

To get the best results with sweet peas they should be planted early. Other things being equal, they will do best if planted in the fall. There are often difficulties, however, in doing this, and generally planting is left until spring. There should be an ample root growth before the heat of summer comes. When the spring is late and preparations for planting are necessarily delayed until the last of April, or even until May, the warm weather comes on so soon that the plants rush into bloom without sufficient roots to maintain them at a high standard. While the weather is mild and open during winter it is best to take advantage of it to get the seeds in. They should be sown with a liberal hand, as one can never have too many of them, as they can be used for so many purposes, are always acceptable, and never out of place. The demand for this flower has become so great that it has stimulated the production and the seeds are now offered at a price never before heard of. It is a good plan to sow them thickly in long rows in the kitchen garden and thus have all one can use.



SPRAY OF MADEIRA VINE.

SAPOLIO lightens
the
hearts of the women who
use it, and brightens the
hearts of the homes that
are cleaned with it ***



ROCHESTER, N. Y., JANUARY, 1895.

Entered in the Post Office at Rochester as "second-class" matter.

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One copy one year, in advance, Fifty Cents.
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Average monthly circulation 1893, 200,000.

Preserving Fruit Shipments.

A test of shipping a car load of fruit and flowers from California to the East without the use of ice has been made recently. A car was sent from Los Angeles to New Orleans, which was supplied with sterilized air during the whole time of transit east and return to California, carrying back a part of its shipment to show how well it had been preserved. After being out fourteen days, "both the fruit and the flowers," says the *Tulare Register*, "were perfectly fresh, and even the stems of the grapes had not wilted, although the weather had been as warm as 104 degrees during part of the journey."

The sterilized air is produced by condensing air by means of the air brake cylinders, and thus generating heat which destroys all microbes, bacilli and fungus germs. The supply of sterilized air, it is said, can be kept up as the train proceeds at almost no cost. The new process is called the Perkin's method after the inventor, an Episcopal clergyman of California.

The process can be as easily applied to ocean vessels, and it is claimed that it will revolutionize the carrying trade of perishable fruits.

Another method which Californians are experimenting with, having the same end in view, is shipping fruit in carbonic acid. Both methods are claimed to be very promising.

Apple Scab.

In regard to this disease, D. G. Fairchild, in his Bulletin entitled *Bordeaux mixture*, says, that "it may safely be affirmed that the treatment of apple scab is successful from an economic standpoint. The increased size of the fruit from the prevention of the fungus, which has been shown by Green to be considerable, as well as the production of fair fruit, makes the increased market value of the crop many times greater than the expense of treatment.

"The treatments to be successful must be early, and from the knowledge at hand it seems quite probable that the best results will follow such a course of procedure as is here outlined. The first treatment should be made as the fruit buds are unfolding in the spring and the scales upon opening reveal the clusters of young unopened flowers. The second spraying should be done after the young flower clusters are expanded, but before the individual blossoms have opened; and the third application as the petals are falling, indicating that the fruit is set. It is always advisable to make these three applications, but a fourth spraying may possibly be omitted in dry seasons, although if frequent rains occur it should not be postponed beyond the period when the fruit is one half inch in diameter. Treatments made later than this period have proved to be of doubtful value. The successful results obtained by Green with a 75 gallon formula of the mixture leave scarcely anything to be desired, and such a formula it would seem can safely be recommended. For the first treatment a stronger mixture may be found, after more extended experiments, to be economical. Paris green may be added with safety to prevent the codlin moth, but it should be applied at the time of the second and third sprayings only, at the rate of 1 pound to 200 gallons of the mixture.

The Potato Scab.

This fungus is very disfiguring to potatoes even when it attacks them but slightly, and when severe it no doubt greatly checks their growth, and always injures their sale in market.

In the proceedings of the Columbus Horticultural Society, Prof. William R. Lazenby, states "potato scab can be prevented and the value of the crop greatly increased by soaking the seed from one to one and a half hours in a solution of corrosive sublimate, 1 oz. to 8 gallons of water.

"To prepare the solution, first moisten the corrosive sublimate and then dissolve it in two quarts of boiling water, then dilute as above. Two ounces of the sublimate in 16 gallons of water will treat, if carefully used, 15 bushels of seed potatoes. For soaking the seed, a tub or half barrel could be used, and the potatoes immersed in an open basket or coarse sacking."

In connection with the above it is well to note what is said on this subject by D. G. Fairchild, in Bulletin No. 6 of the Division of Vegetable Pathology, Department of Agriculture, entitled "Bordeaux Mixture as a Fungicide." Therein he says: "Bordeaux mixture has been tested as a preventive of this disease by Beach, Kinney and Bolley, and incidentally by Weed; and although it has shown results indicating its partial effectiveness, its efficacy is so far inferior to that obtained by the use of mercuric bichloride (corrosive sublimate, Ed.) as to make its abandonment almost certain. The diseased seed was soaked in the mixture (22 gallon formula) and the soil treated with it before the planting of the potatoes, but without satisfactory results. The results of Bolley, in part corroborated by those obtained by Beach, make the use of corrosive sublimate promising, although field practice has not as yet shown its economic value. While the treatments with

Bordeaux mixture gave at least 50 per cent. of diseased tubers when diseased seed was used, immersion of the seed tubers for one and a half hours in a solution of mercuric bichloride (2 ounces in 15 gallons of water) saved all but 2 per cent. from the disease."

Publications Received.

U. S. Department of Agriculture, Washington: Farmers' Bulletin, No. 20, Washed Soils: How to prevent and reclaim them.

Farmers' Bulletin, No. 21, Barnyard Manure, by W. H. Beal.

Farmers' Bulletin, No. 24, Hog Cholera and Swine Plague, by D. E. Salm, D.V.M., Chief of the Bureau of Animal Industry.

Virginia Agricultural and Mechanical College Agricultural Experiment Station: Bulletin No. 35, Fertilizer Tests on Grapes. Bulletin No. 36, The Horse's Teeth. Bulletin No. 37, Strawberry Culture. Bulletin No. 38, Are all Birds of Prey injurious to the farmer? Bulletin No. 39, Tuberculosis.

Ohio Agricultural Experiment Station: Bulletin No. 54, Strawberries, Cultural notes; Comparison of varieties.

University of Illinois Agricultural Experiment Station: Bulletin No. 36, Stock Feeding in Illinois.

Rhode Island College of Agriculture and Mechanic Arts Agricultural Experiment Station: Bulletin No. 29, Fertilizers.

Maryland Agricultural Experiment Station: Bulletin No. 26, Tobacco.

Michigan Agricultural Experiment Station: Bulletin No. 117, Millet, by A. A. Crozier.

Special Bulletin No. 2, Millet, abstract of the preceding.

Minnesota Agricultural Experiment Station: Bulletin No. 34—I. The Chemical Development and Value of Red Clover. II—The Russian Thistle: Its Food Value and draft upon the Soil.

U. S. Department of Agriculture, Washington, D. C.

Besides the bulletins mentioned above we have received from the Department during the year the several issues of the Experiment Station Record, and of Insect Life, and Reports of the Division of Forestry, and various other reports all of interest to practical farmers and horticulturists. We would also call especial attention to Bulletin No. 6 of the Division of Vegetable Pathology, *Bordeaux Mixture as a Fungicide*, by D. G. Fairchild. This is a general review and summary of the *Bordeaux* treatment, with full references to the various publications on the subjects.

Rheumatic Pains

Return when the colder weather comes. They are caused by lactic acid in the blood, which frequently settles in the joints. This poisonous

Hood's Sarsaparilla Cures
taint must be removed. Hood's Sarsaparilla conquers this complaint because it drives out of the blood every form of impurity. It makes pure blood.

Hood's Pills prevent constipation.

QUALITY OF GARDEN SEEDS.

I MIGHT give my experience with the varieties of vegetable and flower seeds, but prefer to write rather of their quality.

I have been engaged in growing plants for the last twenty years and not a season passes but I have on hand some experimental work, a considerable portion of which has been with the raising and ripening of seeds.

Let me say, at the beginning, that I seldom plant any seeds of my own raising, and never use more than one generation removed from the seed bought of the florist. There are two or three exceptions to this rule which I may name further on.

The following statements will show the reason for this:

First—Seed raising is not my profession, and no one can be expected to do first-class work in what is not his business. Seed raising requires a professional skill which takes long years of study and experience to acquire. As I desire first-class plants in my garden I must have seed of the best quality obtainable, which can be had only of a professional grower.

Secondly—Raising ones own seed is too costly a process, even though it were possible to produce first-quality seeds. Seed merchants sell at such reasonable prices that the labor and ground used, and other expenses, greatly outbalance the cost of seed. I have successfully grown cabbage, onion, cucumber, sweet corn, verbena, balsam, petunia, phlox, and snapdragon seed, but always at a loss. These form but a small portion of the flowers and vegetables grown in our garden, and all others I have tried have proven flat failures inside of a generation from the florist's seed, and I have experimented with all the varieties which are offered by our leading seed firms.

Third—Most varieties of both flower and vegetables have been greatly improved in late years and this has produced a tendency toward what is termed "run out," that is, produce worthless or very inferior flowers or fruit. Some of the largest and finest of both vegetables and flowers require the skill of the professional grower, which is often termed the "seedsman's secret, in order to raise seeds which will produce perfect plants with perfect products.

Again, our climate is not suited to the perfecting of many varieties, and unless we procure a fresh supply of seed from the seed-house each year we cannot expect good results.

When I was yet a small boy I often went many miles to see some one who had a fine flower garden, and beg some seeds, but when the next season came round and my flowers were so inferior in size and color, in spite of careful cultivation, I was led to the conclusion that home grown seeds were a nuisance, and subsequent experience has confirmed this conclusion. In later years I have had some remarkably fine displays of flowering plants, and my neighbors would say "Oh, may I have some seed? They are so fine!" The next year they would plant the seeds thus obtained, cultivate with care, and have a crop of very inferior bloom. Then they would come and look at my plants and bewail their lack of luck (how many failures are charged to luck anyway, poor fellow!) The

luck in the matter was that I had bought good seed of a reliable seedsman, and of course I had good plants. Never a summer passes without some one saying to me "I've raised them, but never such nice ones as you have. Why is it?" Good seed is the secret.

A word about where to get reliable seeds. I have experimented with about 375 seed houses, and advise all to avoid the flashy catchy advertiser showing wonderful colored pictures and offering something for nearly nothing. This last usually reverses the order and gets your something and returns you nearly nothing.

As I before said, I have been raising flowers and vegetables for the last twenty years and I have come to rely mainly on seeds procured at one establishment and have never been disappointed in size, form, color or perfection when I have those seeds.

Nature is taking a rest now, but if we want good vegetables or a fine display of flowers this year planning must begin soon. All home grown seeds should be discarded, together with what kindly intentioned neighbors have supplied, and you will not be grieved at the wrong which poor luck has done you, but will rejoice in toothsome vegetables and beautiful flowers. Home grown seed is, in general, a delusion and a snare, while that of the reliable seedsman may be depended on as a sure thing. S. L.

New Haven, Ind.

NEW PLANTS AND OLD.

The creeping rose, Rosa Wichuriana, is an acquisition if, as said, it is perfectly hardy. The little mailing plant I set last spring with merely a pail or two of old manure mixed with the soil, and a hoeing or two for culture, though in the shade of great maples all the afternoon and too near their roots, no doubt, for the best results, is now some four feet across and has had a few flowers; and the new growth starting after the fall rains shows it was checked somewhat by the drouth. A writer in *Garden and Forest* says it is evergreen in lower New Jersey, and no autumnal change is yet perceptible here (Oct. 24). Few plants have leaves more heavily varnished; no rose-eating insect comes near it so far as I know. The creamy white flowers are about the size of a silver dollar and almost as flat when fully blown, there is a bunch of large golden stamens and a sweet, though rather faint fragrance unlike the typical rose scent. They are somewhat ephemeral, seldom perfect more than two days, but they keep on coming for a long time, two months, if I remember. The red hips are said to be pretty in winter and what I have seen of it helps me to imagine how fine a rod or two of ground covered with a thick mat of its trailing branches and bright flowers would be. Whether the stems, if pegged down, will take root or not, I do not know, but I am going to try it. It is much recommended for cemetery planting.

A willow, not positively identified as yet but probably the laurel-leaved willow, is a good tree; a well grown leaf, measured today, is seven inches long and almost three wide, and the leading shoot for the year is forty-seven inches long. Even the creeping rose has a less shiny leaf. Look toward the sun across a bed of blue periwinkle, *Vinca minor*, and you will see something of what I mean except that the willow, stirred by the wind, keeps on flashing. It is ironclad, will grow anywhere on hardpan or gravel; a cutting pushed into the ground in spring, or possibly in fall, though I have only just tried this, starts it, it grows fast to at least

a foot in diameter and thirty feet high, and perhaps much larger. I own to a great weakness for "myrtle," as the people here call the periwinkle, *Vinca minor*. I am not sure I could ever be persuaded there can be too much of it. Once fairly established it forces back the grass year by year, though not very rapidly, but ground once gained is never given up unless you dig it up, and many things are easier to do than this. Here on this bank, in the shade of the lilacs, the ground is densely covered, good for ones eyes all winter whenever the ground is bare; in spring before you know it there are thousands of blue stars amidst the green. On the ground beneath the branches of this basswood the rod or so of myrtle is better than any lawn-mowed surface to me. Grown from a single sod, planted perhaps ten years ago, it slowly advances, the mass of foliage being at least a foot deep, a thing of beauty every day in the year unless buried in snow. E. S. G.

Canaseraga, N. Y.



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JAMES VICK'S SONS, Rochester, N. Y.

TWO GOOD FLOWERING PLANTS.

THE Crimson-eye Hibiscus is a great acquisition to our gardens, as it will grow from seed and blossom the first year, and live in the ground indefinitely.

I purchased a small plant last spring and we had such a dry season that I was afraid I could not make it live until fall, but I afterwards learned that dry weather does not have such a bad effect on this hibiscus as it does on most shrubs.

It not only lived, but blossomed, and though the blossom was probably not of full size, it measured four and one-half inches across.

The picture and description of the blossom does not do it justice, for the beauty is as much in the color and texture of the flower as in the form. It reminds me somewhat of a single hollyhock, the blossoms being pure white with a rich velvety crimson center.

It is perfectly hardy, but dies down to the ground each year, comes up early in the spring, and blossoms profusely through the summer.

The plant itself is ornamental, growing from four to eight feet high, having red stems, and the leaves being a very bright green.

All who have a place for hardy shrubs, should try one of these lovely plants.

Like most women I have no love for anything pertaining to tobacco, nevertheless the fragrant flowered Nicotianas are great favorites of mine.

N. affinis, the best known sort grows from seed to the height of three feet, and as it branches freely, is covered with blossoms the season through. It is somewhat of a novelty, blossoming in the evening and the flowers remaining open during the morning until the sun is well up.

The blossoms are large, white, five-petaled, or star-shaped, with a long tube and are deliciously fragrant.

The seed can be started in the house early in spring and the plants will then be ready to bed out and blossom early. They can be had in bloom as early as July from seed planted in the open ground.

This plant is also admirable for window culture in winter, as it blooms freely and the sweet fragrance of the flowers fills the room. The flowers also remain open longer than when they are grown out of doors.

There is also a giant Nicotiana of recent introduction and I believe the seed was brought from Brazil and the seedlings grown from it were first introduced at the Paris Exposition in 1889.

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NEW 68 PAGE CATALOGUE AND GUIDE to Poultry Raisers for 1885. Contains over 130 fine illustrations showing a photo of the largest henry in the west. Gives best plans for poultry houses, sure remedies and recipes for all diseases, also valuable information on the kitchen and flower garden sent for only 10 cents. John Bauscher, Jr., F. O. Box 777 Freeport, Ill.

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OPIUM or Morphine Habit Cured at Home. Trial Free. No Pain. Comp'd Oxygen Ass'n, Ft. Wayne, Ind.

The plants make splendid specimens, being from six to seven feet high, the leaves often being three feet in length and eighteen inches wide.

The plant is raised from seed, but does not bloom the first year, but the roots can be kept over winter in a greenhouse.

It is used mostly for massing in the background or for the centerpiece in beds of ornamental leaved plants.

The new variety N. macrophylla I have never seen, but it comes highly recommended. It is a red variety and the plant grows from three to four feet high in very compact form and is an exceedingly free bloomer.

N. decurrens is also a good sort, being quite dwarf in form and branching from the ground. The flowers are white, and like N. affinis, open in the evening.

Seed can be started in the house in March, or if wanted for winter blooming, plant them in August. A blooming plant can be lifted from the garden if desired, but usually a new plant gives nicer blossoms and more of them as it has not become weakened by summer flowering.

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And Family Almanac for 1886. 80 pages. 70 engravings; the finest work of its kind ever published. Gives recipes for making egg food; condiment powders; remedies for all diseases of fowls; plans and directions for building poultry houses; tells you how to raise chickens profitably, gives full description with illustrations of 45 leading varieties of pure bred fowls. It is an encyclopedic of chicken information, worth many times its cost to anyone interested in poultry. You positively cannot afford to be without it. Sent postpaid on receipt of price 15cts. Address C. C. SHOEMAKER, Box 18, Freeport, Ills., U.S.A.



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has never been equaled for the instant relief of Catarrh, Cold in the Head and Headache. Cures Deafness, restores lost sense of smell. Sixty years on the market. All Druggists sell it. 25c per bottle. F. C. KEITH, Mfr., Cleveland, O.

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THOSE ANSWERING AN ADVERTISEMENT WILL CONFER A FAVOR UPON THE ADVERTISER AND THE PUBLISHER BY STATING THAT THEY SAW THE ADVERTISEMENT IN VICK'S MAGAZINE.

THE ENGLISH IVY.

Old plant growers do not need to be told of the good qualities of the English ivy for a successful indoor climber; but those who are just essaying house-plants may be pleased to learn that with this plant they can have a climber to train up and along the wall, and over pictures if desired, and that it always looks fresh and green. Its leaves are thick and of a leathery texture and are capable of withstanding the effects of considerable changes in temperature, of dry air, dust and all the other disturbing agencies to plant life which are present in living rooms. Planted in ordinary potting soil in a medium-sized pot it is ready to commence a growth which will continue for years, if only it is supplied with water and kept free from insects. It should be trained in such a manner that it can be taken down and restored again to its position, and this can be done by the use of a good strong cord or a wire. It is more or less subject to green fly, as are nearly all other plants, and it is liable to harbor scale insects. If the young plant has no scale insects on it, and there are none on other plants in the house it may remain exempt from them indefinitely. It is better, therefore, to guard this point in starting a plant. Green fly, of course, is easily overcome by the well-known usual methods. Sulpho-tobacco soap perhaps is the best for the purpose in connection with this and other house-plants.

ORNAMENTAL ASPARAGUS.

A number of species of asparagus are now raised in greenhouse culture for use with cut flowers in making bouquets and flower pieces or to mingle loosely with cut flowers.

Asparagus plumosus was one of the first introduced for this purpose and is yet considerably cultivated, although many now prefer a dwarf species known as *A. plumosus nanus*. On the whole it is more satisfactory. *A. tenuissimus* is a species considerably used for the same purpose, and if it is kept from growing too large it makes a good specimen plant to stand with others on the greenhouse shelf. *A. canariensis* is a species less widely tested, but

appears to have valuable qualities. *A. decumbens* is a fine species and probably will be more largely grown. It makes a fine plant for falling over and draping the sides of a large vase. *A. Springlei* is another valuable kind which will yet become better known. *A. vingatus* is a species of peculiar growth, forming dense wavy



SPRAY OF ENGLISH IVY.

masses of foliage. All these are raised in large quantities by commercial florists, trained upright on strings fastened at the top of the house, or trained horizontally. Rich soil and ordinary greenhouse treatment only are required.

All these plants give a great amount of foliage for the ground space which they occupy.

SPRAYING PLANTS.

Spraying plants with clear water is of such benefit to them, that it is strange people in general do not practise it more. There are several kinds of implements to use for the purpose, any of which will do the work nicely.

The one I use is the elastic plant sprinkler, which is also of use in dampening clothes.

There is also an atomizer on the market which can be used in the same way, this has the advantage of the other in being constructed so the perforations can be turned upward when desired, so as to sprinkle the under sides of the leaves and rid them of red spiders.

More expensive and larger sprayers are also in use and capable of doing more work. One of them works with a rubber bulb, by pressing which the water is carried into a rubber tube from which it is sprayed through a nozzle on the plants. Several different nozzles accompany the sprayer, so the spray can be made fine or coarse as is desired.

The value of spraying cannot be overestimated; it tempers the atmosphere around the plants and washes the dust from them, leaving the breathing pores free to act and prevents the ravages of red spiders.

Some years ago when I had no sprinkler and had never heard of one, I used a whisk broom dipped in water to sprinkle my plants and it answered the purpose very well.

Some plants do not like water on their leaves and they can be moved out of reach of it. None of them like it when the sun is shining hot upon the foliage, but in the early morning or evening they enjoy it.

The value of moisture around Chinese Primroses is seldom fully understood. They dislike it on their foliage, but when the

pots are sunk into wet sand, the moisture causes them to grow rank and healthy, and they never have that dried-up, forsaken look that we see when moisture is lacking.

To sum it all up, the rule to follow in spraying, is to spray as often as you think the plants need it, and then to be sure they have enough moisture, spray a little more.

Z.

"Vick's Seeds contain the Germ of Life."

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Containing 112 large pages, printed in 17 different colors; elegant lithographed illustrations of **Hypericum**, **Hibiscus Sunset**, **Vick's Branching Aster**, **Sweet Peas** and **Vegetables**. The cover is a CHASTE DESIGN OF SILVER AND GOLD. Descriptions and prices of the old standard varieties of *Flowers*, *Vegetables* and *Fruits*. An exceptionally fine list of Novelties. Ready January 1st, and mailed free upon receipt of 10 cents (not one-half actual cost), which may be deducted from the first order.

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PRUNING GOOSEBERRIES AND CurrANTS.

Gooseberries—Confine pruning chiefly to thinning out main branches and cutting out weak and exhausted parts, regulating the current year's young wood as evenly as possible over the trees at such distances apart that the hand may be passed down among them without being scratched. Allow no shoots to remain to grow inwards or in reversed positions whereby they tend to crowd the centers, which ought to remain moderately open. Keep the shoots clear of the ground by cutting away the lowest growths. The pendulous growing varieties require special attention in this respect, and when pruned ought to be cut to upward pointing buds. Prune erect growers to outward buds, and those of spreading growth to inside buds, which will modify to some extent their natural habit, producing more shapely and serviceable bushes. In thinning out, either cut the shoots dispensed with entirely out close to the old wood, or leave them to the extent of an inch, when they will form spurs at the base. A dusting of lime when the bushes are damp is good for the trees, destructive of insects, and a preventive of birds taking the buds. If manure is needed draw the earth from below the branches till the roots are visible, then spread a layer of decayed manure on them, covering with a sprinkling of fresh soil. The remainder of the soil outside the radius of the roots may be manured and forked over, or the latter alone will do where the ground is rich and the trees productive.

Red and White Currants—As the disposal of a proper number of branches—usually five to seven in ordinary sized bushes—is effected early in the existence of the bushes the pruning is a very simple matter. It consists in pruning back to within an inch of the main stems all the side growths produced during the summer, shortening the extension growths in the same way with full sized bushes, but in those required to extend leave a length of not more than nine inches. With weakly trees six inches is enough. The object of shortening the branches to these distances is to cause proper breaks of side shoots, and to strengthen the stems so that they can bear the large crops of fruit which are annually produced from the clusters of basal buds congregated on the spurs. Give the trees a good dressing of manure over the roots, and sprinkle the branches with fine lime, which serves to cleanse them of moss, and otherwise benefits them, as well as preserving the buds from birds, which, however, are not so destructive with currant as gooseberries.

Black Currants—These bear differently, and in pruning abundance of young wood must be left, confining the pruning to thinning out the oldest branches and a large proportion of the latest bearing shoots. Strong sucker-like growths from the base may be freely encouraged, or vigorous growths from any part, but preferably originating in the lower parts of the bushes, can be utilized, avoiding crowding. All the wood removed should be cut out cleanly, none being left to form spurs as in red and white currants, though short stubby spurs which form naturally and have received light and air freely, must be retained. Shortening the leading shoots need only be adopted to regulate the size and symmetry of the bushes, but this is best effected by cutting out the longest branches from time to time.

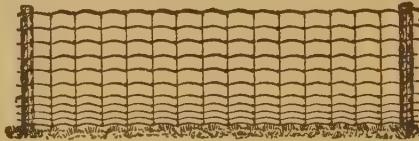
These directions, which are so clearly and briefly stated, are taken from a late issue of the *Journal of Horticulture*, and tell the whole story as well as it can be done. Such instructions are valuable, and if followed by one who observes keenly the effect of his work will, with sufficient practice, enable him to become a skillful pruner. Experience and observation must supplement the best instructions in every art.

Chas. Gammerdinger, Columbus, Ohio, has a fine collection of fowls, over fifty varieties, and made a big display at ten large State shows last fall, winning over 2,000 first and second premiums and many display premiums. See his advertisement in another column.

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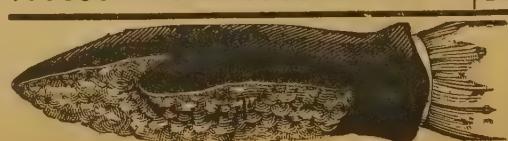
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800 Acres. Land lays well. Well watered. Large amount of hard wood timber; near railroad. Dwelling and outbuildings. Price only five thousand dollars, Good title. Write for free Catalogue.

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A BEAUTIFUL CRAZY QUILT or Bedcover can be made with our package of 60 splendid Silk and Satin pieces, assorted bright colors, 25c.; 5 packs \$1.00. Silk, Plush and Velvet, 50 large pieces, assorted colors, 50c. Emb. silk, 40c. oz. Lemarie's Silk Mill, Little Ferry, N. J.

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PRUNING ORCHARDS.

In pruning apple orchards in winter, says Prof Faville, of Nova Scotia, mild days should be selected. The latter part of winter or early in March is the best time, as the wounds will not be exposed to the severe cold that they would if made early. Large limbs, he thinks, should be removed only when quite necessary, as it is apt to lessen the vitality of the trees.

This removal of large limbs is delicate work, and may be avoided in the orchard by inspecting the trees every winter during their young days, removing cross limbs or overgrown abundant shoots. These shoots occur generally where orchards are pruned the following season, and should be removed by breaking off. In pruning, remove the limbs or branches close to the trunk or stem, making the surface smooth with a knife, cutting away ragged edges of bark to prevent liability to decay.

The wound should then be treated with a composition material, serving the purpose of preserving the wood, excluding the air, preventing injury to cell structure and cracking of the surface of the wound, and assisting the new bark in forming over the cut made. Any surface of an inch in diameter should be treated. An efficient composition is alcohol and gum shellac, mixed to form the consistency of paint, applied with a brush. Common white lead paint is equally as good. Coal tar may also be used. Winter pruning of enfeebled trees will give them a stimulating vigor, if done judiciously, causing the cell development to become larger by increasing the nourishment in a less number of branches.

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MRS. NUWED—"That time has come."

MRS. SOURSPITE—(gleefully) "I thought so. Then you regret your marriage?"

MRS. NUWED—"Oh, no! I regret the warning you gave me. It kept me from marrying for nearly a year."—*Puck*.

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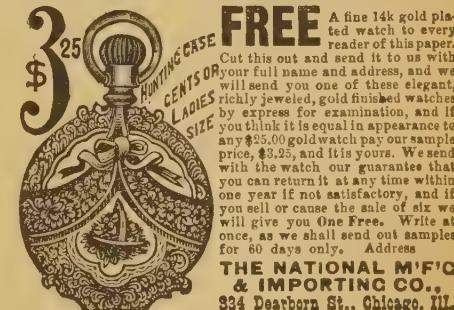
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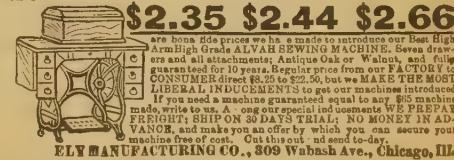
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IRISH MOSS.

From an article published in the *Boston Herald* the *Scientific American* makes some notes on the gathering and preparation of sea weed at Jericho, Massachusetts:

"Boys, men and women, all engage in the work, which consists in spreading it upon the beach prepared by raking all the dirt, stones and driftwood away, and leaving a fine bed of white sand; when the weed is first brought in by the boats, each of which gets about a barrel and a half, it is taken upon creels, a sort of barrow, and spread out upon the beach; it is turned over daily as in hay making, for the space of two weeks; each morning it is washed in clean sea water (fresh water ruins it); it is then gradually bleached, as when first gathered it is of light green color, and in the course of a few weeks becomes successively red, pink, and finally nearly white.

Stormy weather is a great drawback to the mossers' work. Some of the moss that the storms tear loose and scatter upon the rocks is gathered and classed as hand picked, bringing generally a quarter or one-half cent per pound more than that gathered in the usual way of commerce.

Should a spell of rainy weather come on during the season of gathering, heavy unbleached muslin covers are used to protect the moss, which is packed up in heaps.

Two crops are obtained each year, the first one being the better; the later crop is liable to be injured by a little black vegetable growth called glut, caused, it is said, by the warmer water of August days."

The sea-weed here referred to is probably *Chondrus crispus*, of which A. B. Hervey in his work, *On Sea Mosses*, says:

"This is the famous 'Irish Moss' of commerce. It is collected in large quantities on our eastern coast, exposed to the sun to dry and bleach, and then sold to the grocer for his customer to make *blanc mange* of. It grows very common upon the rocks between tides, and a little below, and is as variable a plant as it is common. It is so well known in the East that it hardly need a special description. For others, I may, perhaps, venture to append a brief account.

The fronds are from three to six inches high; thick, tough and leathery. At first, it is a flattened stem; this, at the height of an inch or more, when it is from one-eighth to one-half an inch broad, forks widely. Thence, at varying distances, the parts divide and sub-divide, in the same way five or six times. The frond exhibits all the possible variations between the long and narrow, and the short and wide, and all shades of color, between an olive green and a very dark purple, or jet black.

The purple and other dark shades are apt to be sheeny, or iridescent, in the water, and are

sometimes amongst the most beautiful plants to be found growing in the tide pools, especially when the sun shines upon them. It turns much darker, and does not adhere to paper, in drying. Its geographical range is from the Carolinas north, on the east coast. It is not found on the Pacific side of the continent."

THE CLOVER MITE IN HOUSES.

The specimens accompanying the letter of your correspondent, L. A. G., looking not unlike minute reddish spiders, are a species of mite which has been called the clover mite (*Bryobia pratensis*, Garman) by virtue of the fact that it is perhaps more common upon clover than upon other plants, though it is found upon very many other kinds of vegetation. Your correspondent is correct in assuming that it is closely allied to the red spider, as it belongs to the same family, and was, indeed, for some time confounded with this last species. It has a wide distribution, occurring throughout the Northern and Central States from Massachusetts to California.

When the mite is abundant its injuries to the foliage of plants is manifest by their turning yellow and becoming seared very much, as in the similar injury from the red spider. The peculiarity in the habits of this mite, described by your correspondent, of entering houses has been experienced and recorded by many other correspondents. In autumn the mites seem to prefer to secrete themselves in the crevices of the trunks and twigs of trees, the latter of which they frequently cover with their rather bright red spherical eggs, which are often so numerous that they give the twigs and branches of the tree a decidedly reddish hue. The use of the kerosene emulsion is advised as a remedy to protect the plants attacked, and the same should be applied to all vegetation adjoining houses which are being invaded by the mites. Spraying with benzine is the best thing that can be recommended for ridding portions of houses of the mite. If precautions be taken against fire, the benzine may be used freely, and the unpleasant odor will soon disappear with thorough airing.—*C. V. Riley* in *Scientific American*.

THE CENTURY MAGAZINE for December is a splendid number, both in its articles and its illustrations. The new life of Napoleon, the second installment of which appears in that number, is of engrossing interest and presents his character in truer proportion than any previous account of him.

AN EASY WAY TO MAKE MONEY.

DEAR READERS—I read the correspondent's letters. Some have wonderful success, but when I read how that young man made \$3,000 plating knives, forks and jewelry, I did not believe it. Yet it looked so reasonable that I ordered an outfit from Gray & Co. Plating Works, Columbus, Ohio. When unpacked, to my surprise it went to work like a little giant and I looked on. It does the finest of gold, silver or nickel plating and is the greatest money maker I ever saw. Any one can get circulars by writing.

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FIT SCURED

(From *U. S. Journal of Medicine*.)

Prof. W. H. Peeke, who makes a specialty of Epilepsy, has without doubt treated and cured more cases than any living Physician; his success is astonishing. We have heard of cases of 20 years' standing cured by him. He publishes a valuable work on this disease which he sends with a large bottle of his absolute cure, free to any sufferer who may send their P. O. and Express address. We advise anyone wishing a cure to address, Prof. W. H. PEEKE, F. D., 4 Cedar St., New York.

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and head noises relieved by using **WILSON'S COMMON SENSE EAR DRUMS**. Entirely new, scientific invention; different from all other devices; the only safe, simple, comfortable, and invisible ear drum in the world. Hundreds are being benefitted where medical skill has failed. No string or wire attachment to irritate the ear. Write for pamphlet.
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FLORICULTURE AND HEALTH.

WE American women live too much indoors. The vitiated atmosphere of our rooms is unhealthy, and close confinement in it has robbed many a cheek of its bloom, and many a frame of its vigor. Then, too, those that live closely indoors are apt to surrender to the petty cares that stand ever ready to engulf the conscientious housewife, and to spend their days in a routine of dull, pleasureless duties. Wives and mothers need to bask in the sunshine, to feel the fresh breeze in their faces, and to breathe deep draughts of the invigorating air of fall and winter. For at least a little time each day they need to get away from pots and pans, dresses and roundabouts.

I know of no better way to do this than to cultivate outdoor flowers. All persons of refinement love flowers; all wish to have the exterior surroundings of their homes attractive. The culture of growing plants is admitted to be one of the most pleasurable and absorbing of occupations. It is this, even more than the fresh air that is inhaled, that makes floriculture so healthful. Physicians tell us that the daily walk, taken with no other object in view than to obey a doctor's order, does a pale, anæmic woman less than half the good that the same time and labor does spent among her flowers. Why? because the one exercise is undertaken as a duty, while the other speedily becomes a recreation and pleasure. Let me illustrate this by an actual example.

A certain woman at forty-eight was completely run down and worn out—a confirmed invalid in fact. Her physician's remedies did her no good. She grew worse instead of better, and the sympathetic disturbance, caused by her mind constantly dwelling upon her case and symptoms, aggravated every unfavorable condition. Her physician belonged to the new and progressive school, and instead of prescribing new tonics and emulsions, he ordered her to have a couple of flower-beds made and work in them so many minutes each day. She poohed at the idea—declared she was too weak to stand—that she got out of breath and her heart fluttered frightfully at the least exertion—that the little she could do had better be for her family and not for her yard, etc. But as her physician

still insisted on it, and insisted also that they must be florist's plants and not the old-fashioned, every-season ones that her neighbors all had, a man was called in to prepare the beds, while the sick woman looked over the gorgeous floral catalogue the doctor loaned her. The whole family became interested in the pictures and descriptions. The sick woman protested they were overdrawn, and that she could not raise anything half as large or beautiful; nevertheless she took considerable pleasure in making out her list, and did not fail to include in it some of the most highly praised of the florist's darlings.

By and by the plants came, the boxes were opened, the waxed paper and moss removed, and the thrifty little plants, already budded to bloom, appeared. A thrill of delight stirred the invalid's heart. She forgot her aches and pains in planning where each plant should stand, and even helped to plant them out. She was very tired when this was accomplished, but after resting a little felt none the worse for her exertion, and possibly even a little stronger. It was a pleasure to watch her plants grow, for they were something unlike those she had seen before, and they looked so healthy and strong, that she began to wonder if she could not raise as fine ones as those she had seen pictured. Every day she made an inspection of her new treasures. As her interest grew she found she could do more and more work among them without tiring herself. Some of her plants failed—how could they help it in a novice's hands? But she studied the catalogues and the floral magazines which the doctor's wife loaned her, and in the main succeeded far beyond her most sanguine hopes. Her vines grew so high that the man of the house had to provide strings to the second story piazza for them to run on. Her plants were loaded with winsome blooms that cheered her heart and soothed her aching nerves each time she looked at them. Insensibly she grew stronger, and by fall began to feel something like her old self. Then, for the first time, she began the culture of house plants in the window. Here again the plants came to her relief. The moderate temperature that she found best suited to her plant's growth gave her more vigor and energy than the overheated

air she had been wont to breathe. The pan of water kept steaming on the register to supply moisture to the air kept down the dust and helped the respiration of both plants and herself, and her usual winter's cough failed to trouble her. So it went on, her health and her interest in flowers steadily increasing, until today she is a strong woman, bidding fair to live out her three score years and ten. Her doctor said floriculture accomplished what his medicines failed to do. Who can doubt it?

In paradise Eve's labor was to train the vines and flowers. Eve's daughters will find strength for tired muscle, and relief for aching nerve, in the same delightful and heaven-given occupation.

L. S. L.

MR. BLACKMORE AND FRUIT CULTIVATION.

Mr. R. D. Blackmore, as is well known, is a market gardener by trade, and writes his novels in his spare time. He lately stirred up a protracted discussion in the *London Times* by a letter to that journal wherein he deplored the condition of the contemporary British fruit-grower, and divulged the painful news that only twice within forty years of fruit-growing had he been able to make both ends meet. He can raise fruit galore, but cannot get a great enough price for it to make its cultivation pay. This year, he said, hundreds of bushels of pears have lain on the ground under his trees because at two and six a bushel it did not pay to carry them to market, and yet the retail price of pears in some parts of London has been as high as four-pence a pear. A Covent Garden market-man, who was one of a large number of respondents to Mr. Blackmore's complaints, insisted that the reason Mr. Blackmore's large pears lay on the ground was because they were wormy. At a time, he declared, when the best British pears were bringing four shillings a bushel he was selling thousands of forty-pound cases of California pears at from ten to fourteen shillings a case. He is afraid Mr. Blackmore and the other British growers do not take pains enough to keep the bugs off from their trees, and commends the care with which American and Australian growers attend to that part of their business. Of course Mr. Blackmore does not admit that his fruit is wormy. He admitted nothing except that fruit-raising in England does not pay, and having started the discussion, let it rage itself out. But we cannot think of him any more as a prosperous fruit-grower who writes novels in his spare time.—*From Harper's Weekly.*



IMPROVED DANISH BALLHEAD WINTER.

Vick's Improved Danish Ballhead Cabbage.

The Standard Cabbage of the World. Adapted for all Climates, and all Soils.

In the town of Mumford, Monroe County, N. Y., no other variety of Cabbage is now grown for market. Mr. W. E. Shardon, of Mumford, a large shipper, is enthusiastic in its praise, saying he has a very much larger demand for this Cabbage from Philadelphia, New York and Boston markets than the town could possibly supply, receiving from \$4 to \$6 per ton more than for any other variety, and this while other sorts were a "drug in the market." It has for some time been the leading and favorite Cabbage of Denmark, and at all times commands the highest price, being called for in large quantities in London, Paris and other European cities. The seed we offer is grown specially for us by the originator in Denmark, hence it is pure and true in every particular. Last year our orders for this truly wonderful variety absorbed all our seed early in the season, but this year we believe we shall have sufficient to supply all demands. The numerous trials made in our experimental grounds have been fully verified by the hundreds of unsolicited testimonials, which justify us in asserting that the Improved Danish Ballhead Cabbage is incomparably superior to all other varieties, and as has been proven when once grown, no other Cabbage can supply its place. It is a second early in maturing. Heads of medium size, with few outer leaves, admitting of close planting; very firm and hardest of all, tender and crisp, with but little if any waste heart, as shown in the illustration on page 27 of our *Floral Guide*; flavor unexcelled, making its handsome appearance a marked advantage. Try this best of all Cabbages and you will always use it.

Seeds 10 cents per packet; half-ounce 20 cents; ounce 35 cents; pound \$4.00.

James Vick's Sons, Seedsmen, Rochester, N. Y.

PLANT GROWING FOR CHILDREN.

IT is the duty of parents to instruct their children about plant growing. It is an important factor of a child's education, and without it the child will grow up in ignorance of the pleasures and delights afforded by working among the flowers. Even a child of six years can be trained to raise plants from seeds and cuttings.

Cuttings should always be taken from the green shoots, taking care to take them off between or below the joints. While most flower growers prefer to root cuttings in sand, they will do nearly as well rooted in soil, and oftentimes in water. For the child, we will suggest the use of sand. Have ready a saucer or pan filled with clean sand and made very damp. Set the slips or cuttings therein and place in a warm sunny window. Add water to the sand daily and never allow it to become dry, while the tender young roots are rapidly forming. In less than three weeks the slips will be ready for their new quarters—small pots. Procure rich, soft earth, such as plant growers use, fill the little pots with this prepared soil and instead of thrusting the delicate little plantlets into it, place at first only a little soil in the pot and set in the rooted cutting, and then fill in enough more soil to come within half an inch of the top of the pot, after pressing it smoothly and gently about the young plants, then give a little water and afterwards keep the soil a little moist.

Don't make the common mistake of "drenching" them. Remember that all slips of geraniums, heliotrope, carnation, verbena, fuchsia, etc., grow rapidly and in about thirty days you will observe white roots peering out from the hole in the bottom of the pot, so go and transplant into three-inch pots, or four-inch is not any too large for them. Before transplanting, however, it is advisable to allow the soil in the thumb pots to get a little dry, then tap the pot, and the ball of earth will roll out and the plants will never realize the change, since by this simple process of transplanting the roots are uninjured.

Procure slips from healthy plants, say in February or March, and when the Frost King has departed, set the young plants in the garden border where all summer long they will be a mass of bloom, and will be a source of delight to all who see them, and especially to the child who has the patience to perform the task of raising them.

Now, for a bit of chat about starting seedlings in the house. This is certainly a delightful pastime, as well as instructive. Good soil is necessary for all manner of flower growing, without it you cannot produce fine healthy plants. When seeds fail to germinate, I know it is not often their fault, but the trouble lies right at the foundation—the soil.

February or March is a good time to sow seeds in the house. A box three inches deep is considered large enough to hold the soil, and for drainage it should have some holes bored in the bottom. If you have a variety of seeds to sow, procure a box the length of the window and from six to ten inches in width. Fill the box with the soil already prepared, sow seed on the soil, and then cover them lightly with more

soil. The seed boxes bear constant watching, and the child who undertakes to learn this most fascinating art will have to keep both eyes open and the mind alert, for forgetfulness works great mischief if the seedlings are not remembered daily by the attendant.

In no case allow the soil to dry out. The surface must be moist, and to do this without washing away the seeds is an art in itself, and where grown people are apt to commit a fatal error. The child should be provided with a toy rose-nozzled watering pot. The spray moistens the soil evenly and no danger of "drowning" the seeds, as a stream of water from a cup would surely do.

By and by the seedlings will peep through the soil, and what a delight to watch them grow! Don't hurry your seedlings, children, by keeping them too warm, for if you do, they will be weakly, spindling, blossomless plants. Stove heat and sun heat combined will be too much for them, so beware of this fact and keep them a little cool, and admit fresh air to the room every day when it is not too cold.

When the seedlings show a few leaves it is time to take them from the seed bed and put them into larger quarters. Put into small pots or transplant them into boxes. Be sure to have the soil moistened before removing the plants, so that the soil will adhere to the roots. Any great disturbance of the roots tends to delay their speedy growth. When the air becomes warm and balmy in late May, set the seedlings out in the garden border. Remember that in the North we are never safe in setting out tender plants until the latter part of May, when all danger of frost is over. Water the plants after setting them out and transplant seedlings to the open ground on a cloudy day, or else shade them after setting out. Seedlings raised this way will make fine healthy plants.

F. E. G.

THE PEANUT.

Originally a native of Africa, the peanut was first cultivated in this country in the Carolinas. It is now grown in California and in many localities of all the southern States, but is a commercial crop only in North Carolina, Virginia and Tennessee. Two-thirds of the crop is grown in the south-eastern counties of Virginia and adjoining districts of North Carolina. The remaining third is raised in Tennessee. The annual average is 2,970,000 bushels, and the annual value about \$2,500,000. Last year there were raised 8,750,000 bushels. In 1887 the crop was 30,000 bushels greater. More land will be planted in peanuts this year than ever before. It has been fully demonstrated that our soil is splendidly adapted to the cultivation of this crop.

The uses to which this humble "goober" of Georgia, "ground pea" of North Carolina and Virginia, "pinder" of Florida, "peanut" of the North, and "pistache de terre" of the French—all one and the same—are put, are numerous and varied. For eating they are roasted and made into candy, but not nearly all are consumed in this way. Quantities of them are ground up for the valuable oil they contain. It is clear, nearly colorless and closely resembles olive oil, for which it is sometimes substituted.

It is also a favorite factor in making fine grades of soap. The product left after the oil is extracted is called peanut flour and in some states is highly appreciated when used for making biscuit. Burned peanuts are also used in adulterating chocolate and coffee. The roots of the peanut vine are often used in place of licorice, which is much like them in taste. The vines themselves make a fodder for cattle, of which they are very fond and which is equal to clover in its milk and meat producing qualities.

The peanut grower prepares his land in the spring by plowing it five or six inches deep and harrowing it to break up the clods or lumps of earth. When all danger of frost is past and the ground is quite warm, the nuts are taken from the shells but with unbroken skins and planted in rows three feet apart, hills twenty inches apart, three or four nuts to the hill. When the little vines are a few inches long the field is hoed and all but the tips covered with earth. The vines bloom thickly with tiny yellow flowers and as these fade, a little stem shoots out of the base of each one and buries its point in the ground, nuts form at the end of these points. In September and October when the nuts ripen, the earth of the hills is loosened with hoes and the vines with nuts clinging to them are gathered and spread upon floors to dry. Or they are dried in the field and stacked about stakes four or five feet high. Here they remain several weeks when the nuts are pulled from the vines and sent to factories.

The varieties of peanuts most commonly raised in the United States are the white, red and spanish. Of these three the white is the most important and is raised in the greatest quantities. Each of the white nuts contains two kernels, having pink skins. The Spanish is the smallest nut of all and has the lightest skin. It is adapted chiefly to sandy soils. If the soil for peanuts is not naturally rich, a handful of bone dust or fertilizer of some kind is scattered over each hill at the first hoeing.

The raising of the humble goober is really a very important industry, for although the cultivation of peanuts is steadily increasing in this country and the area of land devoted to it is enlarged by thousands of acres every year, the average price of five cents per pound is readily maintained and the yearly crop has never yet been sufficiently large to supply the demand.

The peanut vine has pretty, dark green foliage, something like clover or garden-pea leaves. Virginia farmers sometimes wear as badges, little golden peanuts; and Georgians, because of an old war anecdote, showing their fondness for the nut, are called "Goober Grabbers."

L. G.

LE MONDE MODERNE.

We take pleasure in informing our readers, especially those who employ or read the French language, of the publication of a new illustrated magazine or review in Paris with the title of the above caption. It is a gem of art in all respects, its typography is faultless and the style of its make-up is all that the most fastidious could desire. The numerous engravings are in the highest style of art, and the printing of them appears to be the attainment of perfection. Its articles range over the widest field of literature, and are by some of the ablest writer of France. Altogether it is a publication which we can well recommend to those interested. The price of subscription for this country is 21 francs a year. The editor is A. Quantin, 5 Rue Saint Benoit, Paris, France.

ULLABY.

Dear little girl, good night, good night,
The pretty birds in their nests are still;
We watched the sun as he sank from sight
Over the tree-tops on yonder hill.
Two stars have come since the daylight went,
'Way over there in the sky's dark blue;
They must be angels that God has sent
To watch my baby the whole night through.

Dear little girl, good night, good night,
I hear the frogs in the meadows call,
They croak, in the evening light,
Down in the pond by the old stone wall.
I think, perhaps, that they tell the flowers
Never to fear, though the world is dark;
They know that the firefly lights the hours
All night long with his cheerful spark.

Dear little girl, good night, good night,
Dear little head with your silky hair,
Dear little form that I hold so tight,
Cosy and warm in the nursery chair.
White lids are veiling the eyes so clear,
Over their blueness the fringes creep,
Slower and slower I rock you, dear,
My little girl, asleep, asleep.

—*Good Housekeeping.*

VEGETABLES UNDER GLASS.

A paper upon this subject read before the Massachusetts Horticultural Society, and now published in the "First Part of the Transactions" for 1894, contains many points of interest. Portions of the paper are here given:

Boston gardeners have for about fifty years grown lettuce for the New York market, and even now it is probable that more than half of the lettuce grown near Boston is consumed in the metropolis. At first it was grown only in hotbeds, and gardeners seemed to think that it could not be grown of good quality unless within a few inches of the glass; but about twenty-eight years ago some of the gardeners of Newton and Belmont began to experiment in building greenhouses, being forced to this by the scarcity of horse manure, which was used by the Arlington gardeners in great quantities for their hotbeds; indeed at this time the number of hotbeds on many farms was limited only by the amount of manure that could be bought. The price of manure was then about six to eight dollars per cord in Boston; at present it is worth from one dollar to nothing at all. Hotbeds, however, have not entirely gone out of use; indeed there are probably more of them used now than ever before; but much the larger part of the increase of glass for vegetable growing during the last twenty years, has been in the construction of new greenhouses.

HOTBEDS.—The construction of hotbeds, as described in many books on gardening, is a much more expensive method than is at all necessary, or than is followed by most practical gardeners. There is no need of using nearly so much "heat" as the books usually advise, and a bed sunk in the ground so that the glass shall be only a few inches above the general surface, is far easier to build and to manage, than one heaped up two or three feet high, as is often advised in the books.

The hotbed is usually built in November. The location selected should be well drained, with a nearly level surface; if it slopes slightly to the south or south-east it will be better. The work is commenced by building a tight board fence, six and a half feet high, running nearly east and west. The posts for the fence are usually set slanting about one foot from the perpendicular, so that the mats, shutters, or sashes may be leaned up against the fence, when working the bed, without danger of being easily blown down by the wind. The land south of the fence is enriched with a good dressing of fine manure or chemical fertilizers; then plowed and harrowed till thoroughly fine, and graded so that the surface shall slope a little from the fence, and be nearly level from end to end of the bed. The planks which are to form the sides of the frame are then put in place; the plank for the north side being of two-inch by twelve-inch pine, spruce, or cypress; the plank for the south side two-inch by ten-

inch stock. The north plank is set two feet from the fence, the planks being held in places by stakes one inch by three inches, driven into the ground with a heavy maul, upon the outside of the plank, and nailed to the plank. The plank on the south side of the bed must be set exactly six feet—outside measure—from the wider one on the north side, and carefully adjusted so that its upper edge shall be about four or five inches lower than that of the north side, which will give sufficient pitch to the glass.

The frame will need braces across the bed once in about ten feet to keep the planks from springing. The earth should be banked against the outside of the planks to within about five inches of the top. Before the ground freezes much, the whole should be covered with straw, eel-grass, or coarse manure to protect the inside from freezing till such time as the bed is required for use, which is usually at a season when everything outside is frozen up pretty solid. Sometimes when the bed is to be used early in the winter it is simply protected by placing the glass and shutters over it. Whenever it is desired to work the bed, the covering is stripped off, and the loam thrown out to a sufficient depth to admit the "heat" with its covering of loam, and still leave room for the plants under the glass. The nature of the plants to be grown, and the season of the year when it is to be done, will regulate the depth to which the bed must be dug out. For early winter work, and for cucumbers, a strong heat of from twelve to fourteen inches of hot dung will be needed, covered with six or eight inches of loam, and this will require the pit to be dug out about two feet or two and a half feet below the top of the frame. For later in the season a "heat" of from six to eight inches, will usually be found quite enough. When beds are carefully made, and the "heat" is of uniform quality, they work very well, and in skillful hands produce excellent crops, especially in the latter part of winter and spring; but for all-winter work the greenhouse is far preferable.

As I said before, it is now about twenty-eight years since some of the enterprising gardeners of Belmont and Newton began to experiment in building greenhouses for growing lettuce. The first houses were built of hotbed sashes, the experimenters having so little confidence in the success of the plan that they were unwilling to risk a permanent roof, which could not easily be pulled down and used again for hotbeds. It was then the common belief that lettuce must be grown within a few inches of the glass, and the houses were built low, with just room enough above the beds to work them, and with the roof almost as flat as a hotbed. It was soon found, however, that lettuce, equally good, grew at several feet distant from the glass, and that it was better to give the roof more pitch in order to shed snow and rain. The houses now built for this purpose have a pitch of from twenty to twenty-five degrees, and some of them are four hundred feet long and fifty feet wide, with a ridge twenty feet above the beds. It is found that these houses are far better than hotbeds for winter growing of lettuce and cucumbers, and the increase of glass during the last five years has been chiefly in the line of greenhouses, while not a few additional houses have been covered with old hotbed sashes. The permanent glass roof, however, is preferable unless it is desired to remove the roof during spring or summer to work on the beds, as is still practised by some gardeners.

The vegetables mostly forced for market at present are, in their order of importance, lettuce, cucumbers, radishes, dandelions, beets and beet-greens, parsley, mint, and cress. Mushrooms are also largely forced, but not under glass; dark pits are used for this purpose.

Lettuce is by far the most largely grown and used of all the forced vegetables. Most of the greenhouses produce two or three successive crops of lettuce each winter, followed by a crop of cucumbers in spring and summer.

The care of greenhouses and hotbeds demands

constant attention, especially the greenhouses. One of our humorous market gardeners once said, in enumerating the advantages derived from them that they furnish a safe retreat at night for the head of the family, during periods of domestic strife; and also a convenient excuse for staying away from church, since they always need airing at the time of morning services. Joking aside, they certainly demand most constant attention, both day and night for seven days of every week, and a little neglect will quickly convert a promising and valuable crop into a sickening mass of frozen or scorched rubbish.

But for those who love to watch and care for growing plants there is an indescribable fascination in raising them at a season when all nature without is locked up in snow and ice. I imagine that this pleasure is quite independent of the supposed profit of farming under glass, and, in many cases this year, is the only reward on which the owner can depend with certainty.

There are some difficulties in the way of gardening under glass which can only be overcome by constant care and watchfulness; and others that are imperfectly understood, and demand further study by men of science and practical experience.

Among the difficulties which may be overcome by care, the most common are maintaining a suitable degree of temperature and moisture for the plants in question; a simple thing enough to state and to give directions for, but in our fickle climate a most difficult task to accomplish without a night watchman; and who shall watch the watchman? Few greenhouses are provided with heating apparatus sufficient to carry a proper heat for eight or ten hours during a blizzard without attention; and a sudden fall in the outer temperature of twenty or thirty degrees during the night will often cause destruction with the unware. And with some plants too high a temperature is quite as injurious as too low, and overheating is almost as common a fault in their management as any other.

Among the difficulties that are as yet imperfectly understood are the treatment of insects and fungous diseases. The aphis is a very destructive pest in greenhouses and hotbeds; it thrives best in a rather warm temperature, and attains its best development when fed upon good lettuce and cucumber plants. The best remedy is careful and frequent smoking with tobacco, and for this purpose I have found that the fine tobacco dust furnishes a safer and more manageable smoke than the stems or leaves.

Another class of pests that we know less about are the various mildews and rots of the lettuce and cucumber plants. In general the best way to fight them is to begin with clean plants and a clean house; the plants being grown in fresh loam, in a hotbed where none of the same species have lately been grown. Before setting the plants, fumigate the vacant greenhouse with a strong sulphur smoke, which will kill every living thing; and after setting them keep them growing vigorously in a congenial heat and moisture. Stunted and unhealthy plants are far more subject to injury by both insects and fungous diseases than those in healthy growth.

A good crop of both lettuce and cucumbers is usually grown in a new greenhouse the first year, but the succeeding crops are far more subject to disease. This suggests the importance of the system of rotation of crops where it is possible to adopt it, in order to avoid the spores of fungi, which rapidly accumulate in the soil and surroundings where repeated crops of the same vegetable are grown. This is not always easy to accomplish, the great demand for forced lettuce obliging the gardener to repeat this crop often.

If Baby is Cutting Teeth,

Be sure and use that old and well-tried remedy, MRS. WINSLOW'S SOOTHING SYRUP for children teething. It soothes the child, softens the gums, allays all pain, cures wind colic and is the best remedy for diarrhoea.

FLORAL FACTS AND FANCIES.

No doubt there are some persons of a very practical turn who consider it useless or even foolish to employ flowers for the purpose of expressing feelings or sentiments. But even in an age that gives us numerous ways of expressing thought or emotion, flowers, so vastly varied in form and hue, plentiful both in town and country, attainable too by everyone, must still be valued because of their symbolism. The beginning of it was, we know, at a time when language was poor, and a tangible object, such as an animal or a flower, served instead of a word to give expression to a thought. A lion represented courage, a fox cunning, and an eagle or hawk keen sight; and flowers or trees, in like manner, were noticed to have certain peculiarities which suggested ideas. Hence when the curious fashion arose of carving trees or shrubs of an evergreen habit into devices resembling geometrical figures, animals, or other objects, the tree had its own meaning or significance, and might symbolize some animal besides whose shape had been given to it. This style of tree disfigurement, for so we must call it, once much admired, has ceased to please. Amongst the species selected for this purpose were various pines and firs, the box, juniper, holly and yew. People still sometimes sow annuals so that they shall on coming up represent names or initials. Formerly flower beds also occasionally exhibited plant devices intended to suggest animals, or perhaps heraldic figures, rudely designed at the time of sowing. Before, however, I return to the garden flowers, which are my principal subject, we may gather up some of the meanings that have been linked to a few familiar evergreens of our shrubberies; all of them as a group signify "solace under adversity," because they are so cheerful during the gloom of winter.

The box, hardy and heroic, indifferent alike to sun, rain or frost, may well show "unshaken fortitude." The familiar privet of our hedges has two meanings, "mildness" and prohibition. Very well does the holly represent "foresight," since nature so armed the tree as to guard it from rough usage, and made it a good protection for birds and insects; it would seem, too, to be aware that beyond a certain height prickles are not needed, for the higher boughs of large hollies have generally smooth leaves. It may seem odd that the juniper should signify "shelter" or "succor," but the allusion is no doubt to the fact that one of these furnished shade to a wandering prophet. Gardeners a century or two ago rather liked to plant the juniper on lawns or garden borders, but it has now gone out of favour. Pines and firs as a group are said to symbolise "Time," because the years roll on and seasons pass without bringing any alteration in their appearance. Rightly does the larch represent "boldness," for it climbs the bleak hillside, and flourishes where most trees would have a struggle for life. It is a pity it is not more freely planted about England. Some of the pines are similarly characteristic of "daring." They grow tall and vigorous in unpromising situations; they are able also to brave the perils of ocean when used in shipbuilding. Then the Scotch fir, or properly Scotch pine, is a symbol of "elevation," either from its liking for lofty spots, or from the esteem in which it was formerly held. To the spruce fir has been attached the meaning of "hope in adversity."

From the time of the ancient Greeks the cypress has told of death, and the cedar, gloomy yet grand, conveys the idea of "strength" and of "in corruptability." Some assert that the yew, often planted in churchyards and at one time much used for garden hedges, was looked upon as a figure of immortality from its perpetual verdure; but there is an old legend concerning it that rather supports the belief that it is a symbol of sorrow. Under a yew, so is the tale, once sat the Christ-mother on a winter day, and her tears fell upon the babe; upon the morrow the tree put forth new leaves, and thenceforward the species was evergreen. To

the laurel or bay from very early times has been assigned the significance of "human glory." * * * During the last century and before it, the myrtle was a great favorite, both as a garden and window plant. The liking, probably, was imported from Italy; in that country it is still freely grown. This is a plant representing "love" or "affection," doubtless from its association with the goddess Venus, whose temples were surrounded by groves of Myrtle, and who was worshipped under the name of Myrtilla; though we have also a story that it commemorates Myrsne, a Maid of Athens, attendant on Minerva, who, loving not wisely but too well, underwent transformation into this shrub. The Athenians also used as a symbol of authority, magistrates wearing crowns of myrtle. Conquerors, again, received wreaths of it combined with laurel, possibly because weapons were sometimes made of its wood. Our poet Spenser alludes to the plant, and Milton places it in Eve's bower, while Thomson compares his Lavinia to a myrtle. * * *

Many cultivator of the Dahlia may not be aware that this flower, named after Dahl, a Swedish botanist, came very near being called "Georgia," in honor of our reigning family; probably it would have been had not an American State already owned the name. Nor that when first brought to Europe it was on the supposition that the unpleasant flavored root could be turned to some account. Common as it is now, eighty years ago very few were to be seen in Britain, and those in houses, for there was an idea that, coming from the hot climate of Mexico, it needed the warmth of a conservatory. In flower language it is presumed to say, "My gratitude exceeds your care," because this is a plant that fully repays all attention bestowed upon it, though trouble is requisite to secure fine blooms.

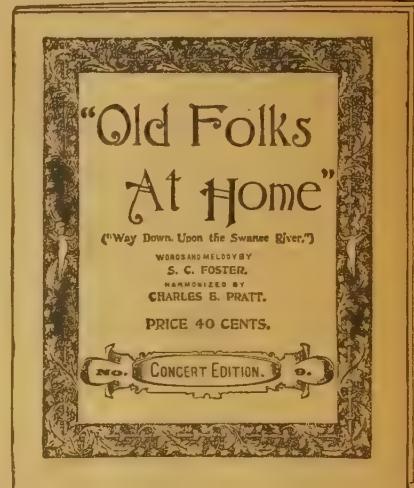
Apparently the China aster, which took its name through a fancied resemblance between its flowers and the radius of a star, became a symbol of "vanity," from the almostumberless tints developed by the skill of the horticulturist, though the seeds sent over first in 1730 produced only a simple violet flower. In China, to the present day, the aster is a specialty for floral decorations, and the national patience and perseverance is well exemplified in the careful arrangement of colors and shades. We have to thank Tradescant for the aster called the Michaelmas Daisy. Our ancestors, unaware of the host of flowers that were to arrive from other countries, regarded it as the latest conspicuous flower of autumn; it was the goddess Flora's "afterthought" or "farewell," when she left the beds at the end of the season. It was said also, that the Michaelmas Daisy displayed its flowers in memory of the valiant deeds of St. Michael.

To the popular chrysanthemums, taken as a group, has been given the significance of "cheerfulness under adversity," since these plants are chiefly in flower during the winds and rains of the autumn. The variation in color has suggested other meanings; thus, a red chrysanthemum, like a red rose, represents "love," the purity of the white flower suggests "truth," and a yellow one, like many flowers of that hue, reminds us of "envy" or "jealousy." The heliotrope, which still lingers in flower to perfume our bouquets, is symbolic of "faithfulness.—*J. R. S. C. in Journal of Horticulture.*

THE BOOK OF THE FAIR is a reproduction of the great Exposition, so far as it can within reasonable limits in print and pictures. The text is pure and classic, and the illustrations the finest that can be made. 680 pages of the 1,000 which it is to contain have now been issued, and as far as it has proceeded it is fully satisfactory, and it is certain that when completed the work will be a full history of the Columbian Exposition as a whole, and in its several national parts. The Bancroft Company, of Chicago, is doing itself great credit by this publication.

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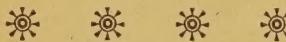
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SEED TESTING.—An excellent bulletin, No. 118, treating of the Methods and Uses of Seed Testing has lately been sent out by the North Carolina Agricultural Experiment Station, at Raleigh. The subject is quite freely treated and the work will be especially valuable to seedsmen and experiment stations. Except to a very limited extent the practical farmer or planter cannot make experimental tests of seeds. That is the business of the seedsmen and he should know quite accurately the character of the seeds in which he deals. His reputation depends upon his stock and therefore on his knowledge of it. He risks his reputation if he is ignorant of the quality of his seeds. The purchaser buys in good faith, and if he discovers his seedsmen to be either ignorant or dishonest he resorts elsewhere.

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JAMES VICK'S SONS, Rochester, N. Y.

THE HERB GARDEN.

When ordering seeds and plants in the spring, I would suggest to the housewife to include an order for a few herbs.

They are very desirable additions to the kitchen garden, being used in a variety of ways both for flavoring and medicine.

The most common ones are sage, sweet marjoram, thyme, summer and winter savory, parsley, tarragon, sweet basil, coriander and caraway.

For dressing for fowls, flavoring for salads, soups, and stews, and for garnishing, they will be found invaluable, always at hand when wanted and fresh.

Others not so much used are often found useful in sickness and are much stronger than the poor dried up stuff one can procure at the druggist's?

The most common ones used for this purpose are anise, arnica, wormwood, saffron and hoarhound.

They are all easily cultivated, and some of them remain in the ground year after year.

Most of them need to be cut on a dry sunny day when they are in blossom, and tied up in bunches and hung in the shade to dry.

Sage can be cut, the new shoots and leaves only, whenever large enough.

Mine was cut five times this season and a good quantity procured each time from ten two-year old plants.

A ready sale can be found for the surplus stock of these herbs at the druggist's or at the market, where many of them are used for seasoning and others for trimming and decorating.

Z.

CYCLAMEN PERSICUM.

The amateur flower grower who raises plants on a small scale, and often with few facilities compared with those of the professional gardener, has greater difficulties to overcome together with less knowledge of the best methods to use to effect his purpose. Notwithstanding this, there are those among amateur growers who are highly proficient in plant raising with only a hotbed or a coldframe at most. But their success depends on love of the plants and unceasing care for them, as well as watching carefully all their requirements. The method of raising cyclamen from seeds as here described by Wm. Scott in the *American Florist* is quite complete, but the private grower must adapt the instructions to his facilities, and learning here the main points accomplish good results for himself by wit and tact.

The seed should be fresh and of a good strain. Sow anywhere from September to end of January, the earlier they are sown, the larger you can have the plants for the following winter, but if grown on without a check you can grow fine plants in twelve months. Sow in a well drained pot or shallow box in sandy soil. Make the surface of the soil perfectly even, press in the seeds and cover only enough to just cover the seeds. Keep the soil moist but not too wet.

When the little plants have made the second leaf and the bulbs are the size of very small peas transplant singly into two-inch pots or prick out in flats. I prefer to transplant into flats about two inches apart; when the plants begin to crowd lift carefully and pot into three-inch pots. I might say here that from the time the first leaf is formed they should have plenty

of light and all the air they can, consistent with temperature, and only need shading during our hottest months. Before they need a shift from the three-inch pots it will be the month of May or June and now comes the most critical time of their growth. Some growers (and I believe it is the practice with the Germans) make mild hotbeds and plunge them in, raising the shaded sash back and front. There is no doubt a larger plant can be grown this way, but not such a compact and useful one, and they run a much greater chance of being neglected in a frame than on a bench in your houses. A moderately shaded house with plenty of ventilation will do them all right for the midsummer months. In May or June they should go into a four or five-inch-pot, and in September they should get their last shift, a five or six, or seven-inch as the plant needs, but don't scrimp them for pot room, as they grow and flower a long time.

When October comes they are easily managed. A light airy house where the night temperature is 50° to 55° is the proper place for them. The soil that suits them is a good yellow loam with a third of genuine leaf mold. If you don't have the latter then a substitute can be found in thoroughly rotted manure, but no trace of fresh manure must be used. In a barrow load of the soil I have used one-half a peck of old lime rubbish (mortar) which they like, and for drainage there is nothing so good as charcoal. They should have perfect drainage at all times; pot rather firmly. On all bright days they should receive a light syringing. In regard to water they should never be allowed to wilt for want of it, which they will quickly do, and if well drained you are not likely, with any exercise of judgement, to overwater them. They are much troubled with three well-known enemies, greenfly, thrips, and red spider. There must be a regular systematic fumigating at all times; never less than once a week which will keep down the fly and thrips, and a frequent syringing will keep off the spider. For these reasons they are better handled in a house than a frame. I have never used any liquid manure to them, except soot from soft coal, one-half a pint of that in three gallons of water will help to produce a deep green in their leaves as well as intensity of color to the flower. Never crowd the plants at any time, always giving light and air.

DYED CHRYSANTHEMUMS.

A late issue of the *Scientific American* gives the following account of a practice which has lately been adopted by florists in demand for colored flowers in connection with football games. The taste which demands such monstrosities is as depraved as that which approves of the barbarities of modern football.

The practice of dyeing chrysanthemums to produce striking and unnatural color effects has become a very profitable part of the business of a fashionable florist. The pure white chrysanthemums are used for this purpose. They are colored by being submerged in different colored dyes and in many cases different colors are applied to different parts of the same flower. This work is usually done to order. If flowers are wanted to match the color of some particular dress or the drapery of a room, the customer generally brings to the florist a sample of the cloth to be matched. Chrysanthemums of any color of the rainbow can thus be prepared while you wait. Besides the plain colors, the flowers dyed half blue and half white, and half orange and half black are very popular, and some curious combinations, such as the reproduction of a livid Scotch plaid, are much in demand. This singular practice is said to have grown out of the "necessity" of providing blue and white, and orange and black chrysanthemums for New York's annual Thanksgiving football game.

FRUIT GROWERS' GRAND RALLY.

January 23d in this city will gather the fruit-growers, gardeners and horticulturists of all kinds at the meeting of the Western New York Horticultural Society. Some of the ablest in these occupations and best representatives of scientists from the Agricultural Department of the Government and from the Experiment Stations will be present. Entertaining and instructive speeches, valuable essays and interesting discussions will be the order of the day—or days, rather, for it will be a two days' session. Practical fruit-growers and horticulturists cannot afford to remain away from this gathering which will not fail to develop a fund of available wealth for the workers in every field of gardening. Ladies interested in these subjects will find attendance to be profitable, and they may be assured of a hearty welcome.

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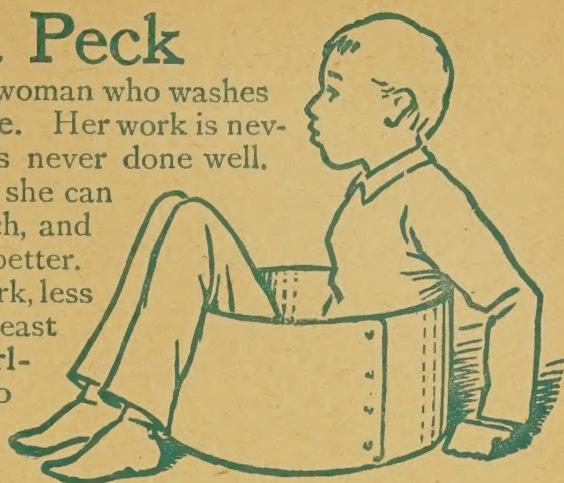
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CHESTNUT WEEVILS.

These insects injure the nuts of the Paragon and Numbo varieties of chestnut as well as the wild chestnuts, according to a writer in the *American Cultivator*. The weevil is of a yellowish color, and about the size of a common pea weevil. The grub is white or cream colored. The female beetle lays her eggs when the trees are in blossom and in a few days the young grubs hatch. The shell of the chestnut forms and hardens around the insects, and after eating most of the meat up inside, the worm bores its way out and escapes. These holes in the chestnuts are never made by worms entering, but always by those that have escaped. One female beetle lays a great number of eggs in one season. The grubs after leaving the nuts go into the ground and produce winged beetles for the next summer. In seasons when they are scarce they have probably been killed by the severity of the previous winter. The chestnuts should be gathered as early as possible, and stored in very tight bins or boxes where the worms cannot escape. Then fumigate them with carbon bisulphide. Eight ounces of this will do the work. After fumigating expose the nuts to the air and sunshine until they are thoroughly dried, and no harm will be done to them. It is quite essential that some such method should be adopted to destroy these creatures if chestnut growing is going to prove profitable.

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PARTIAL PROTECTION FOR PARTRIDGES.

On account of the universal friendship felt for him, "Bob" is specially honored by having his name on the statute-books of most of our States, and he has been the cause of profound thought to our wise legislators, so that in the game laws it is generally written that the closed season when he shall be permitted to whistle in inviolable safety shall be from January 1st until October. But all his friends have not as yet been able to agree as to exact dates, and the laws for his protection vary slightly in different States, and indeed among the counties of the same States. This is not fair to him, especially as he is not duly notified as to the places where he is safe longest, and we think that where his life is in danger there should be a uniform law, that he might know what to expect, and not lose his life because he was not sufficiently posted to fly over a State or county line a week sooner to a place of security. So popular and desirable a citizen as he ought to be treated better. He deserves consideration, for he has "smelt more powder" than any soldier in the land. Six weeks in a year are enough for him to endanger his life for the enjoyment of his compatriots, and those six weeks should begin at the same date through the whole country, that he might know when the war was over. The present law in some places, that forbids shooting at him until the day after the November election, in order to prevent a general slaughter by all who could take advantage of the holiday, and stop the bombardment on Christmas, is a good one, and should be general.—Calvin Dill Wilson, in December Lippincott's.

"WHAT are you doing, Freddie?" said the painfully smart boy's uncle.

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—Washington Star.

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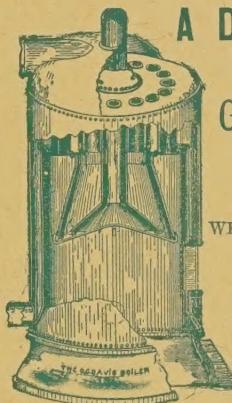
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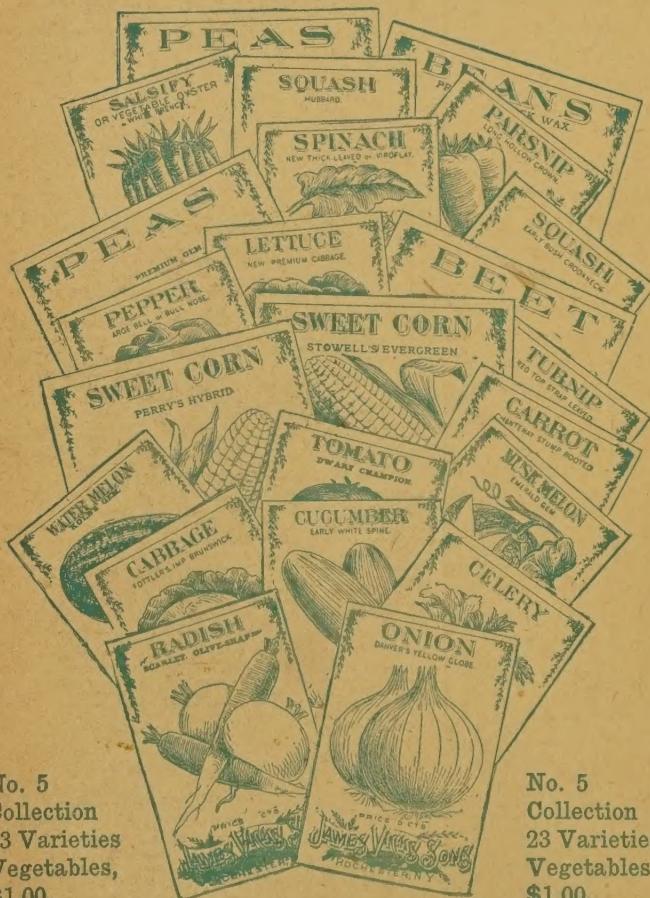
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